LBT-A60/A60CD/A60CDM

SERVICE MANUAL

E Model
LBT-A60CD/A60CDM

Australian Model
LBT-A60

These systems are composed of following models. As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENT MODEL NAME FOR THESE SYSTEM

	LBT-A60	LBT-A60CD	LBT-A60CDM
Tuner	ST-A70		
Amplifier	TA-A60		
Cassette deck	TC-D607		
CD player	CDP-M43 or CDP-C422M	CDP-M43	CDP-C422M
Remote commander	RM-S671		
Speakers	SS-D66AV		

PARTS LIST

- Items marked "∗" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Part No.	Description	Remarks
1-501-374-11	ANTENNA, LOOP	
1-559-533-11	CORD, CONNECTION (TA-CDP)	(EXCEPT A60)
1-574-314-11	CORD (WITH CONNECTOR)	(ST-CDP)
1-590-822-11	CORD (WITH CONNECTOR)	(ST-TA-TC)
1-590-823-11	CORD (WITH CONNECTOR)	(ST-TA-TC)
1-690-727-11	CORD (SPEAKER)	
1-693-065-11	REMOTE COMMANDER	(RM-S671)
3-707-584-11	COVER, BATTERY	(RM-S671)
3-754-676-71	MANUAL, INSTRUCTION	(English, French, Spanish, Chinese)
∗4-951-723-01	INDIVIDUAL, CARTON	(A60)
∗4-953-001-01	INDIVIDUAL, CARTON	(A60CD)
∗4-953-002-01	INDIVIDUAL, CARTON	(A60CDM)

STEREO COMPONENT-SYSTEM

SONY®

English
92D1814-1
Printed in Japan
© 1992.4
Published by Customer Relations and Service Group

Sony Corporation
Audio Group

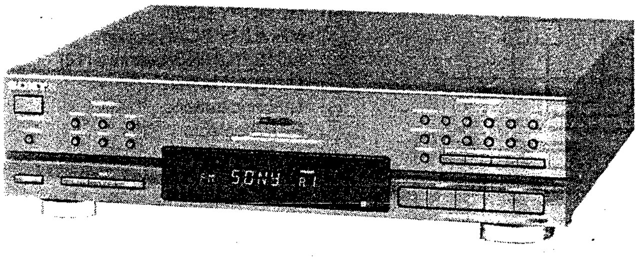
9-957-195-11

ST-A70

SERVICE MANUAL

6318

E Model
Australian Model
Tourist Model



• This set is the TUNER section in LBT-A50/A50CD/A50CDM/A60/A60CD/A60CDM/A70/A70CD/A70CDM.

SPECIFICATIONS

System	FM stereo FM/AM superheterodyne tuner
FM tuner section	
Tuning range	87.5 to 108 MHz
Antenna	75 ohms unbalanced
Intermediate frequency	10.7 MHz
AM tuner section	
Tuning range	MW: 531 to 1,602 kHz LW: 153 to 279 kHz
Antenna	AM loop antenna External antenna terminal
Intermediate frequency	450 kHz

Power requirements	240 V AC, 50/60 Hz
Power consumption	10 W
AC outlet	2 switched, total 450 W max.
Weight	Approx. 2.7 kg (6 lbs 5 oz)
Dimensions	Approx. 355 x 95 x 310 mm (14 x $3\frac{3}{4}$ x $12\frac{1}{4}$ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

FM STEREO/FM-AM TIMER TUNER

SONY®

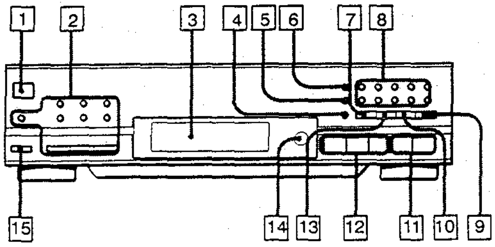
MICROFILM

6318

SECTION 1
GENERAL

This section is extracted
from instruction manual.

Location of Controls



1 SYSTEM POWER switch (8)
2 Buttons for setting the clock and timer (40, 42)
3 Display window
4 MEMORY button (14)
5 MEMORY SCAN button (16)
6 AUTO TUNING button (12)
7 DISPLAY button (16, 40)
8 Numeric buttons (14)
9 BAND selector (12)
10 ST/MUTE button (12)
11 TUNING +/- buttons (12)
12 SHIFT buttons (A, B, C) (14)
13 CHARACTER button (15)
14 Remote sensor
15 SLEEP button (41)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 2
ELECTRICAL ADJUSTMENTS

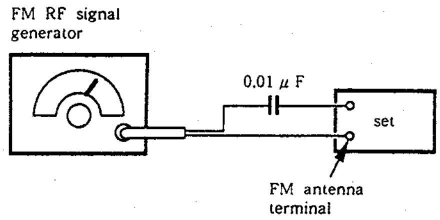
2-1. FM SECTION

FM NULL Adjustment

Setting :

BAND switch : FM

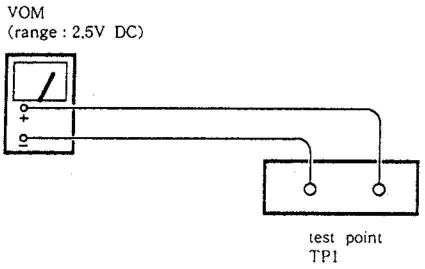
Procedure :


FM RF signal generator
0.01 μ F
set
FM antenna terminal

Carrier frequency : 98MHz
Output level : 1mV (60dB)
Modulation : 1kHz, 75kHz deviation (100%)

1. Tune the set to 98MHz.
2. Adjust T21 for a 0V reading on the VOM.

Note : When the ceramic filter is replaced, these adjustments should be made.

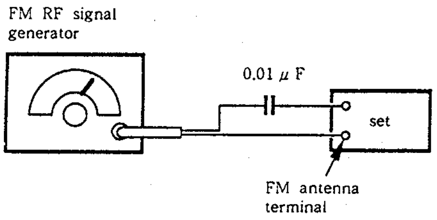

VOM
(range : 2.5V DC)
+
−
test point
TP1

STEREO Indication Lighting Level Adjustment

Setting :

STEREO/MUTE switch : OFF
BAND switch : FM

Procedure :


FM RF signal generator
0.01 μ F
set
FM antenna terminal

Carrier frequency : 98MHz
Output level : 17.9 μ V (25dB)
Mode : Stereo
Modulation :
Audio (1kHz) : 33.75kHz deviation (45%)
Pilot (19kHz) : 7.5kHz deviation (10%)
Sub-channel (38kHz) : 33.75kHz deviation (45%)

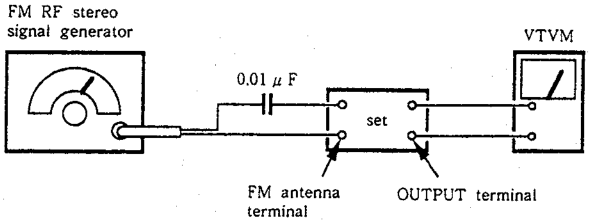
1. Tune the set to 98MHz.
2. Adjust RV24 so that the STEREO indicator goes on.

FM Stereo Separation Adjustment

Setting :

STEREO/MUTE switch : ON (STEREO)
BAND switch : FM

Procedure :


FM RF stereo signal generator
VTVM
0.01 μ F
set
FM antenna terminal
OUTPUT terminal

Carrier frequency : 98MHz
Output level : 1mV (60dB)
Mode : Stereo
Modulation :
Audio (1kHz) : 33.75kHz deviation (45%)
Pilot (19kHz) : 7.5kHz deviation (10%)
Sub-channel (38kHz) : 33.75kHz deviation (45%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV21 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV21 for minimum reading.

L-CH Stereo separation : Ⓐ − Ⓑ
R-CH Stereo separation : Ⓒ − Ⓓ

The separations of both channels should be equal.

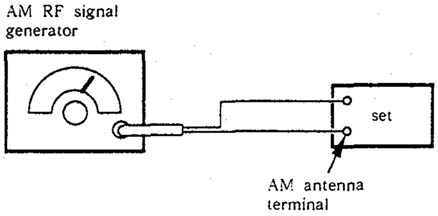
2-2. AM SECTION

SIGNAL LEVEL METER Lighting Level Adjustment

Setting :

BAND switch : AM

Procedure :

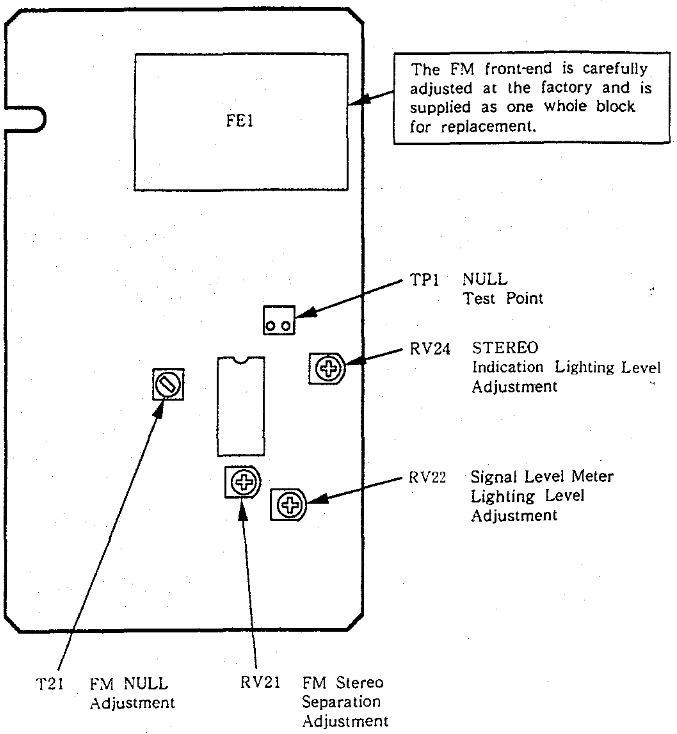

AM RF signal generator
set
AM antenna terminal

Carrier frequency : 999kHz
Output level : 94dBμ m
Modulation : 400Hz, 30% modulation

1. Tune the set to 999kHz.
2. Adjust RV22 until the scale-5 on SIGNAL METER indicator lights up.

2-3. ADJUSTING PARTS LOCATION

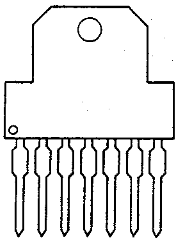
Tuner Board –Component Side–


FE1
The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.
TP1 NULL Test Point
RV24 STEREO Indication Lighting Level Adjustment
RV22 Signal Level Meter Lighting Level Adjustment
T21 FM NULL Adjustment
RV21 FM Stereo Separation Adjustment

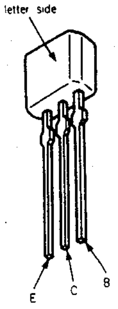
SECTION 3
DIAGRAMS

3-1. SEMICONDUCTOR LEAD LAYOUTS

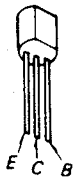
LA5667



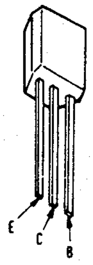
2SC2785-HFE


letter side
E
C
B

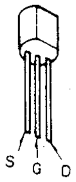
2SB1116A-L



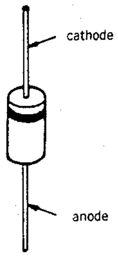
2SC2603-EF
2SC2669-OY
2SC3113-AB
DTA114ES
DTC114ES
DTC124ES



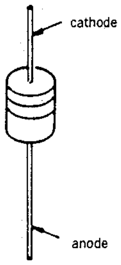
2SK246-GR3



1N4148M
10E2N


cathode
anode

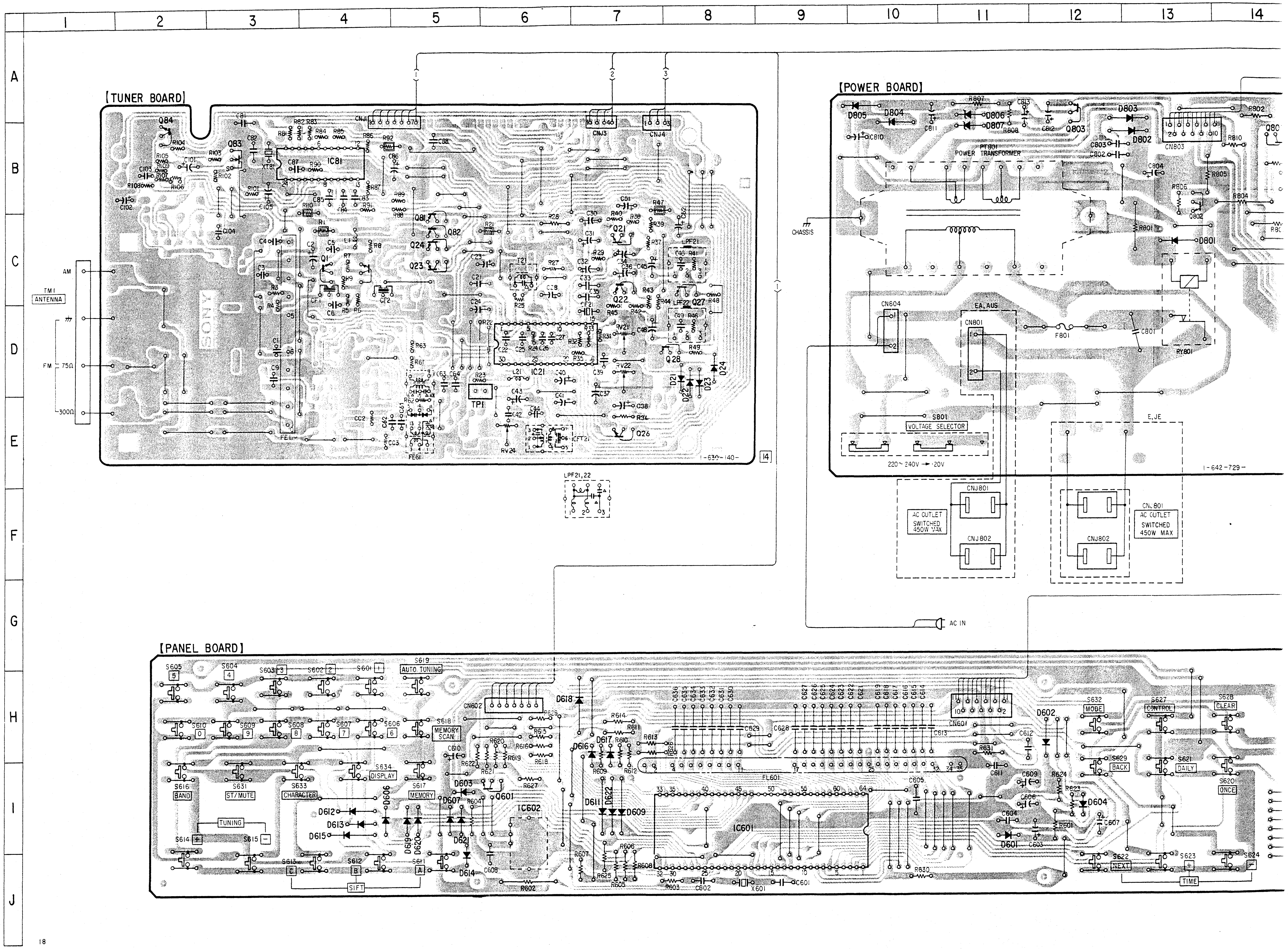
HZS30-2L
UZP-5.6B


cathode
anode

3-2. PRINTED WIRING BOARDS

- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D21	D-8	IC21	D-6
D22	D-8	IC81	B-4
D23	D-8	IC601	I-8
D24	D-8	IC602	I-6
D601	I-11	IC801	C-15
D602	H-12		
D603	I-5	Q1	C-4
D604	I-12	Q2	C-4
D606	I-5	Q21	C-7
D607	I-5	Q22	C-7
D609	I-7	Q23	C-5
D611	I-7	Q24	C-5
D612	I-4	Q26	E-7
D613	I-4	Q27	C-8
D614	J-5	Q28	D-8
D615	I-4	Q81	B-5
D616	H-7	Q82	C-5
D617	H-7	Q83	B-3
D618	H-7	Q84	B-2
D619	I-5	Q601	I-6
D620	I-5	Q701	D-15
D621	I-5	Q801	B-14
D622	I-7	Q802	B-13
D701	E-15	Q803	A-12
D801	C-13		
D802	B-13		
D803	A-13		
D804	A-10		
D805	A-10		
D806	A-11		
D807	B-11		

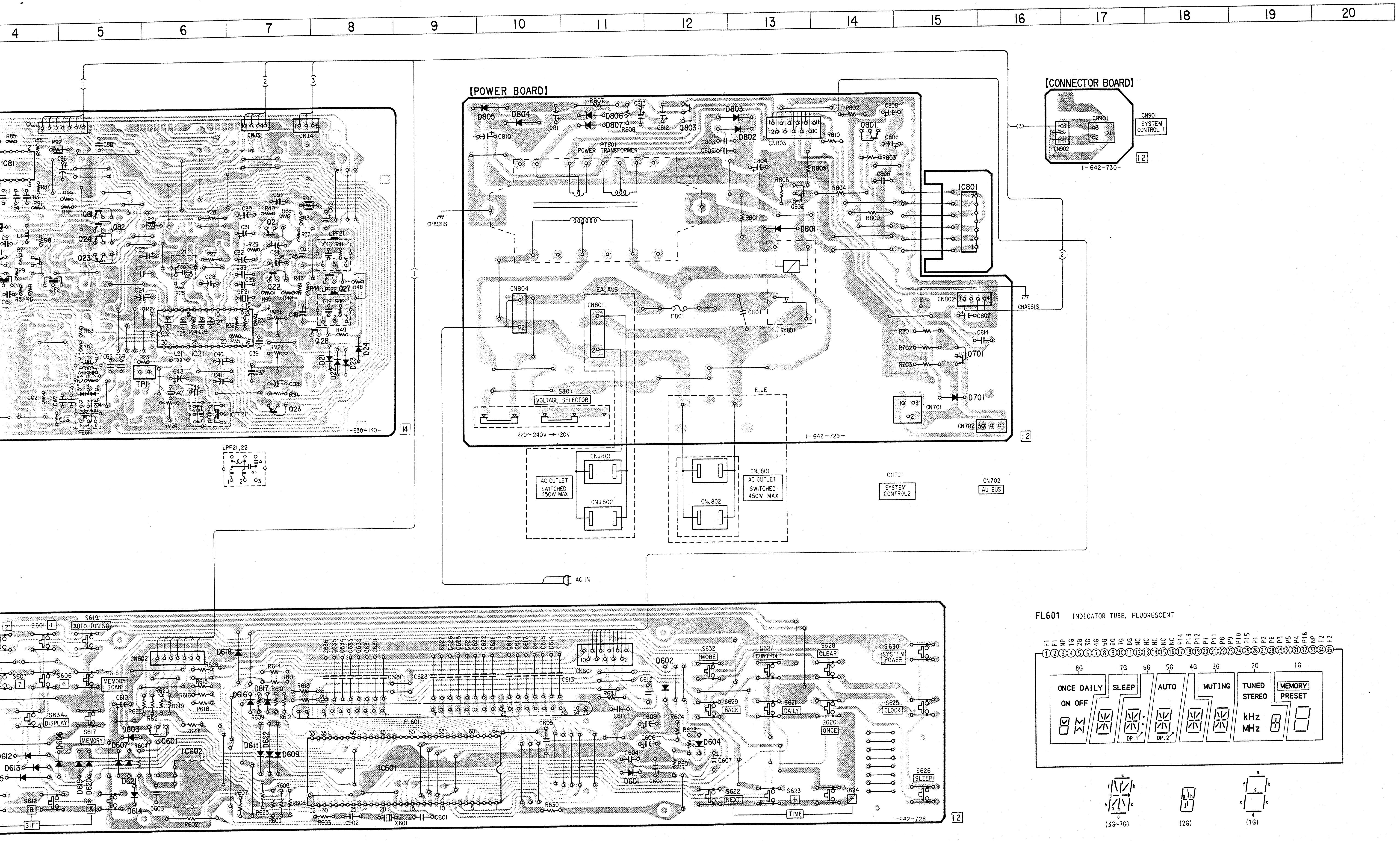


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
[TUNER BOARD]
[POWER BOARD]
[PANEL BOARD]
TM1
ANTENNA
AM
FM 75Ω
300Ω
SONY
IC81
IC21
TP1
CNJ1
CNJ3
CNJ4
LPF21,22
1-630-140-
14
CHASSIS
POWER TRANSFORMER
PT801
CN803
CN604
CN801
EA, AUS
F801
C801
RY801
S801
VOLTAGE SELECTOR
220~240V → 120V
1-642-729-
E, JE
CNJ801
CNJ802
AC OUTLET SWITCHED 450W MAX
CN801
AC IN
AUTO TUNING
MEMORY SCAN
DISPLAY
MEMORY
BAND
ST/MUTE
CHARACTER
TUNING
SIFT
CN602
CN601
FL601
IC601
IC602
X601
MODE
CONTROL
CLEAR
BACK
DAILY
ONCE
NEXT
TIME
18

Note:

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.

EA: Saudi Arabia
AUS: Australian
JE: Tourist


4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
[POWER BOARD]
[CONNECTOR BOARD]
CN901
SYSTEM CONTROL 1
CN902
1-642-730-
12
CHASSIS
PT801
POWER TRANSFORMER
IC801
CN803
CN804
CN801
EA, AUS
F801
C801
RY801
CN802
Q701
D701
CN701
CN702
S801
VOLTAGE SELECTOR
220~240V → 120V
1-642-729-
E, JE
CNJ801
CNJ802
AC OUTLET SWITCHED 450W MAX
CN, 801
AC OUTLET SWITCHED 450W MAX
CN701
SYSTEM CONTROL2
CN702
AU BUS
AC IN
LPF21,22
CNJ1
CNJ3
CNJ4
IC81
IC21
TP1
FE61
CFT21
-630-140-
14
S619
AUTO TUNING
S618
MEMORY SCAN
S634
DISPLAY
S617
MEMORY
S612
B
SIFT
S611
A
CN602
IC602
IC601
FL601
CN601
X601
S632
MODE
S627
CONTROL
S628
CLEAR
S630
SYSTEM POWER
S629
BACK
S621
DAILY
S625
CLOCK
S620
ONCE
S626
SLEEP
S622
NEXT
S623
+
S624
−
TIME
-642-728
12
FL601 INDICATOR TUBE, FLUORESCENT
ONCE DAILY
ON OFF
SLEEP
AUTO
MUTING
TUNED
STEREO
MEMORY
PRESET
kHz
MHz
DP.1
DP.2
8G
7G
6G
5G
4G
3G
2G
1G
(3G~7G)
(2G)
(1G)

3-3. SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

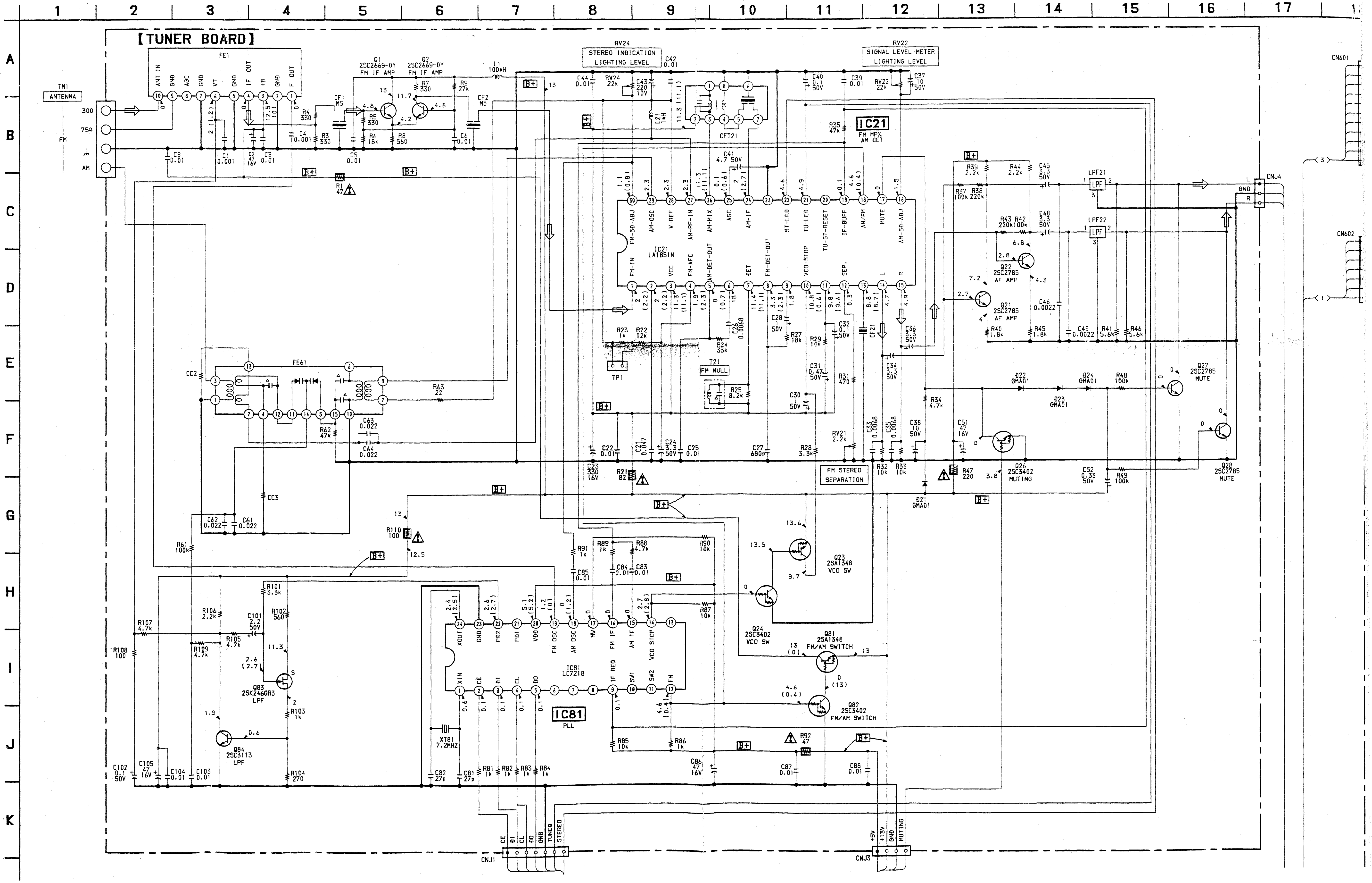
- B+ : B+ Line
- B− : B− Line
- ▭ : adjustment for repair.

no mark : FM
( ) : AM

- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.

⇨ : FM

EA : Saudi Arabia
AUS : Australian
JE : Tourist



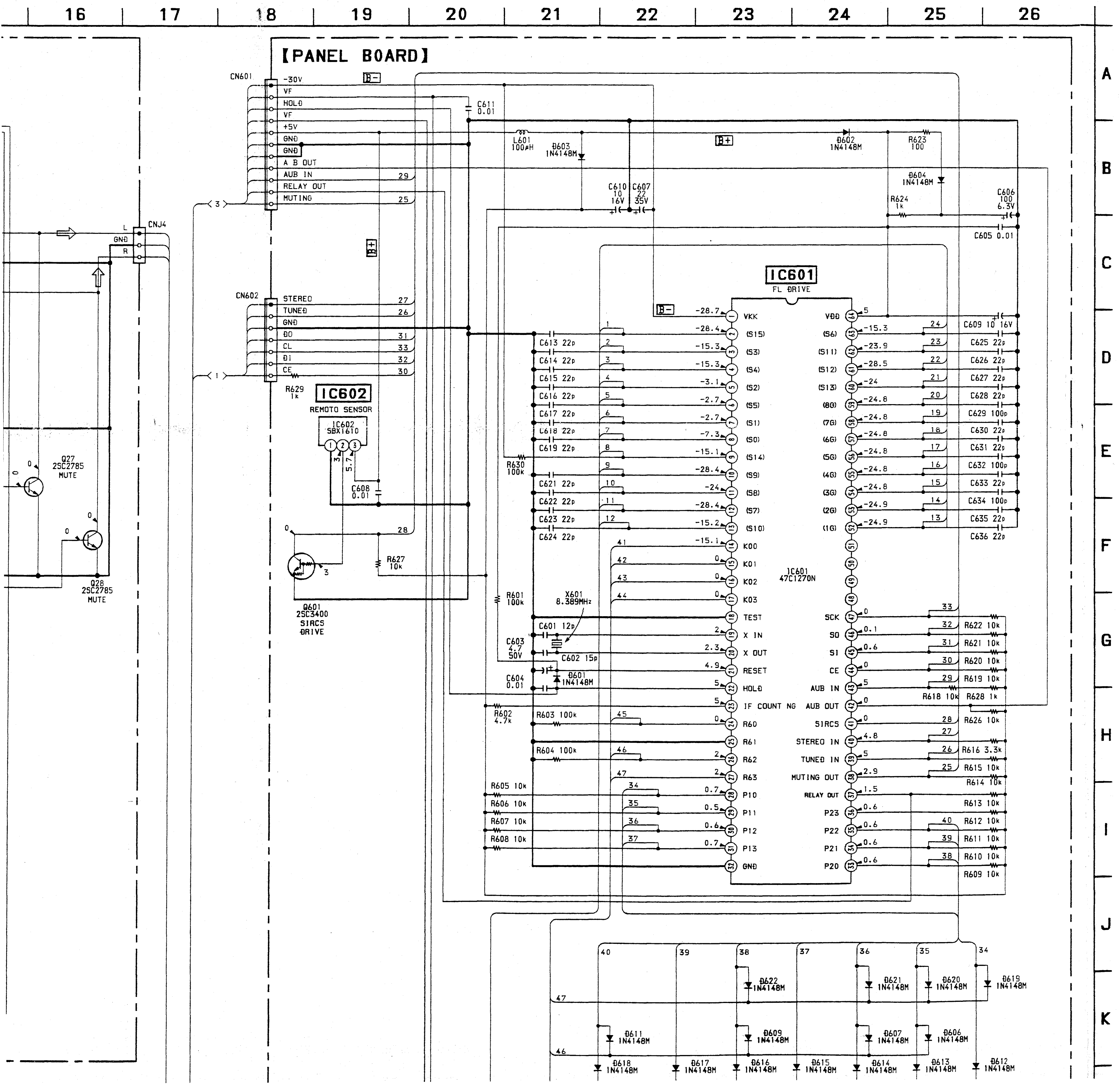
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K
[TUNER BOARD]
TM1 ANTENNA
300 75Ω FM AM
FE1
ANT IN GND AGC GND VT GND IF OUT +B GND F OUT
Q1 2SC2669-OY FM IF AMP
Q2 2SC2669-OY FM IF AMP
CF1 MS
CF2 MS
L1 100μH
R1 47
RV24 STEREO INDICATION LIGHTING LEVEL
RV22 SIGNAL LEVEL METER LIGHTING LEVEL
CFT21
IC21 FM MPX, AM DET
IC21 LA1851N
FM-SD-ADJ AM-OSC V-REF AM-RF-IN AM-MIX AGC AM-IF ST-LED TU-LED TU-ST-RESET IF-BUFF AM/FM MUTE AM-SD-ADJ
FM-IN VCC FM-AFC AM-DET-OUT DET FM-DET-OUT VCO-STOP SEP. L R
TP1
T21 FM NULL
RV21
FM STEREO SEPARATION
LPF21
LPF22
Q22 2SC2785 AF AMP
Q21 2SC2785 AF AMP
D22 GMA01
D24 GMA01
D23 GMA01
D21 GMA01
Q27 2SC2785 MUTE
Q28 2SC2785 MUTE
Q26 2SC3402 MUTING
CNJ4 L GND R
CN601
CN602
FE61
CC2
CC3
Q23 2SA1348 VCO SW
Q24 2SC3402 VCO SW
Q81 2SA1348 FM/AM SWITCH
Q82 2SC3402 FM/AM SWITCH
IC81 LC7218
IC81 PLL
XOUT GND PB2 PB1 VDD FM OSC AM OSC MW FM IF AM IF VCO STOP
XIN CE DI CL DO IF REQ SW1 SW2 FM
XT81 7.2MHZ
Q83 2SK246GR3 LPF
Q84 2SC3113 LPF
CNJ1 CE DI CL DO TUNED STEREO
CNJ3 +5V +13V GND MUTING

10MΩ).
roduc-

EA : Saudi Arabia

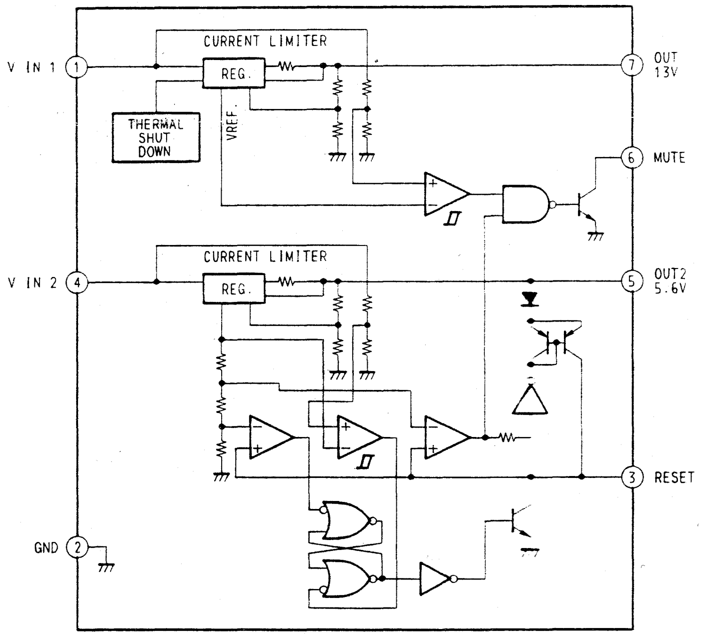
AUS : Australian

JE : Tourist

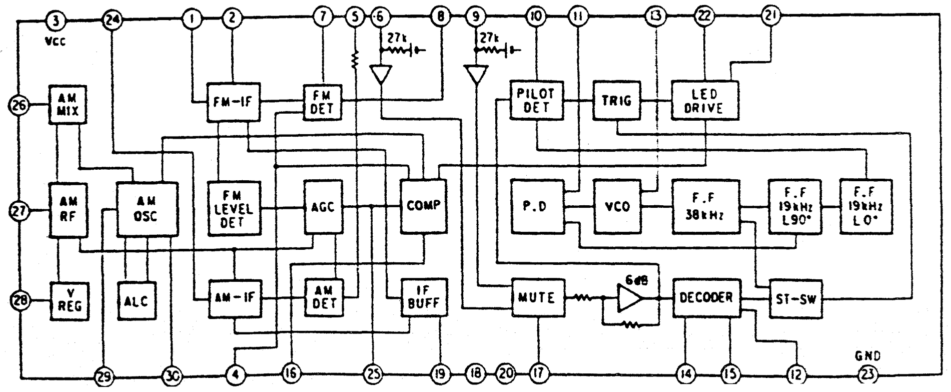

16
17
18
19
20
21
22
23
24
25
26
A
B
C
D
E
F
G
H
I
J
K
【PANEL BOARD】
CN601
-30V
VF
HOLD
VF
+5V
GND
GND
A B OUT
AUB IN
RELAY OUT
MUTING
C611 0.01
L601 100μH
D603 1N4148M
B+
D602 1N4148M
R623 100
D604 1N4148M
R624 1k
C610 10 16V
C607 22 35V
C606 100 6.3V
C605 0.01
CNJ4
L
GND
R
CN602
STEREO
TUNED
GND
DO
CL
DI
CE
R629 1k
IC602
REMOTO SENSOR
IC602 SBX1610
IC601
FL DRIVE
IC601 47C1270N
C608 0.01
R627 10k
Q601 2SC3400 SIRCS DRIVE
Q27 2SC2785 MUTE
Q28 2SC2785 MUTE
R630 100k
R601 100k
X601 8.389MHz
C601 12p
C602 15p
C603 4.7 50V
C604 0.01
D601 1N4148M
R602 4.7k
R603 100k
R604 100k
R605 10k
R606 10k
R607 10k
R608 10k
C613 22p
C614 22p
C615 22p
C616 22p
C617 22p
C618 22p
C619 22p
C621 22p
C622 22p
C623 22p
C624 22p
VKK
(S15)
(S3)
(S4)
(S2)
(S5)
(S1)
(S0)
(S14)
(S9)
(S8)
(S7)
(S10)
K00
K01
K02
K03
TEST
X IN
X OUT
RESET
HOLD
IF COUNT NG
R60
R61
R62
R63
P10
P11
P12
P13
GND
VDD
(S6)
(S11)
(S12)
(S13)
(8G)
(7G)
(6G)
(5G)
(4G)
(3G)
(2G)
(1G)
SCK
SO
SI
CE
AUB IN
AUB OUT
SIRCS
STEREO IN
TUNED IN
MUTING OUT
RELAY OUT
P23
P22
P21
P20
C609 10 16V
C625 22p
C626 22p
C627 22p
C628 22p
C629 100p
C630 22p
C631 22p
C632 100p
C633 22p
C634 100p
C635 22p
C636 22p
R622 10k
R621 10k
R620 10k
R619 10k
R618 10k
R628 1k
R626 10k
R616 3.3k
R615 10k
R614 10k
R613 10k
R612 10k
R611 10k
R610 10k
R609 10k
D622 1N4148M
D621 1N4148M
D620 1N4148M
D619 1N4148M
D611 1N4148M
D609 1N4148M
D607 1N4148M
D606 1N4148M
D618 1N4148M
D617 1N4148M
D616 1N4148M
D615 1N4148M
D614 1N4148M
D613 1N4148M
D612 1N4148M

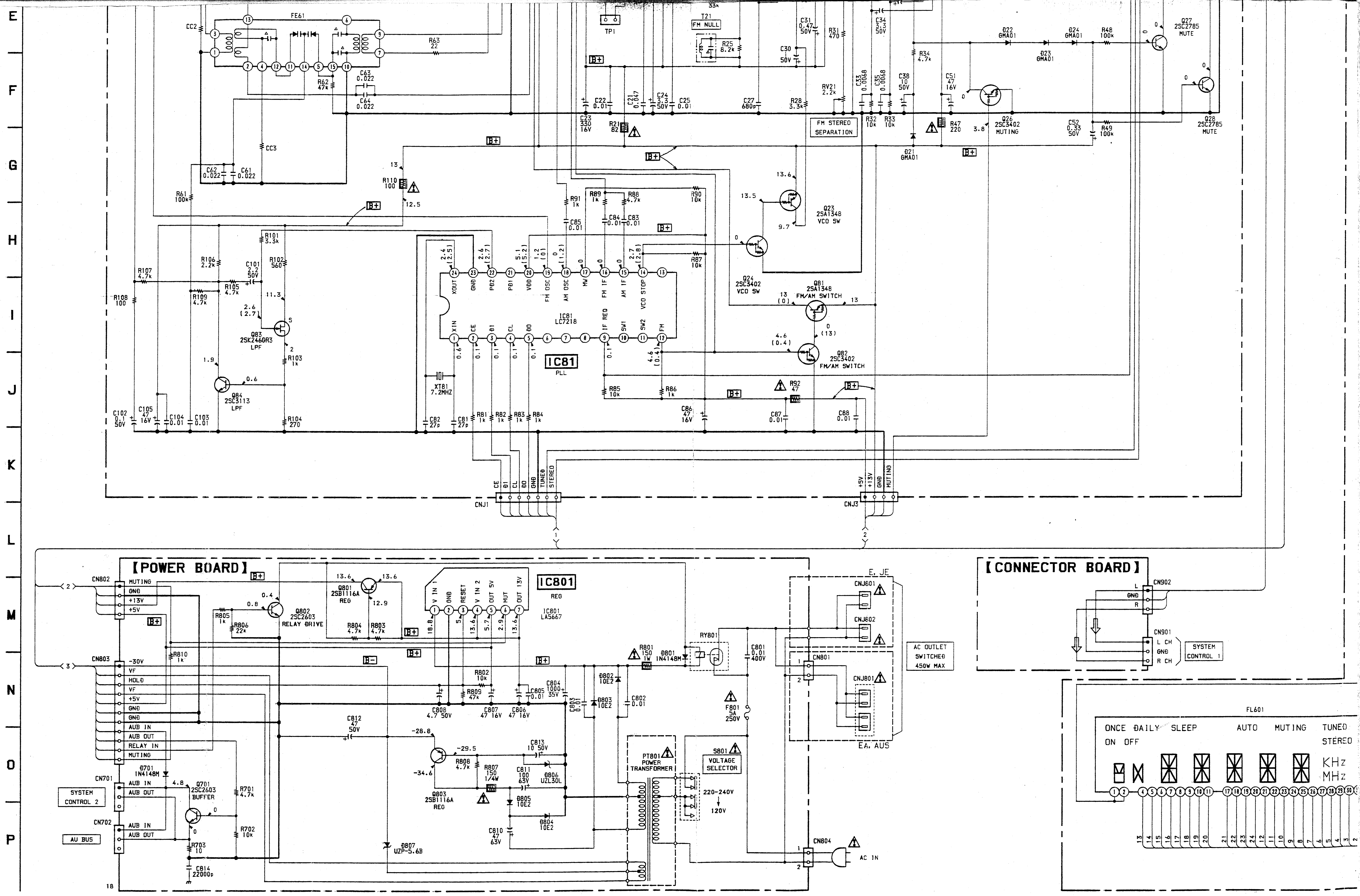
IC Block Diagrams

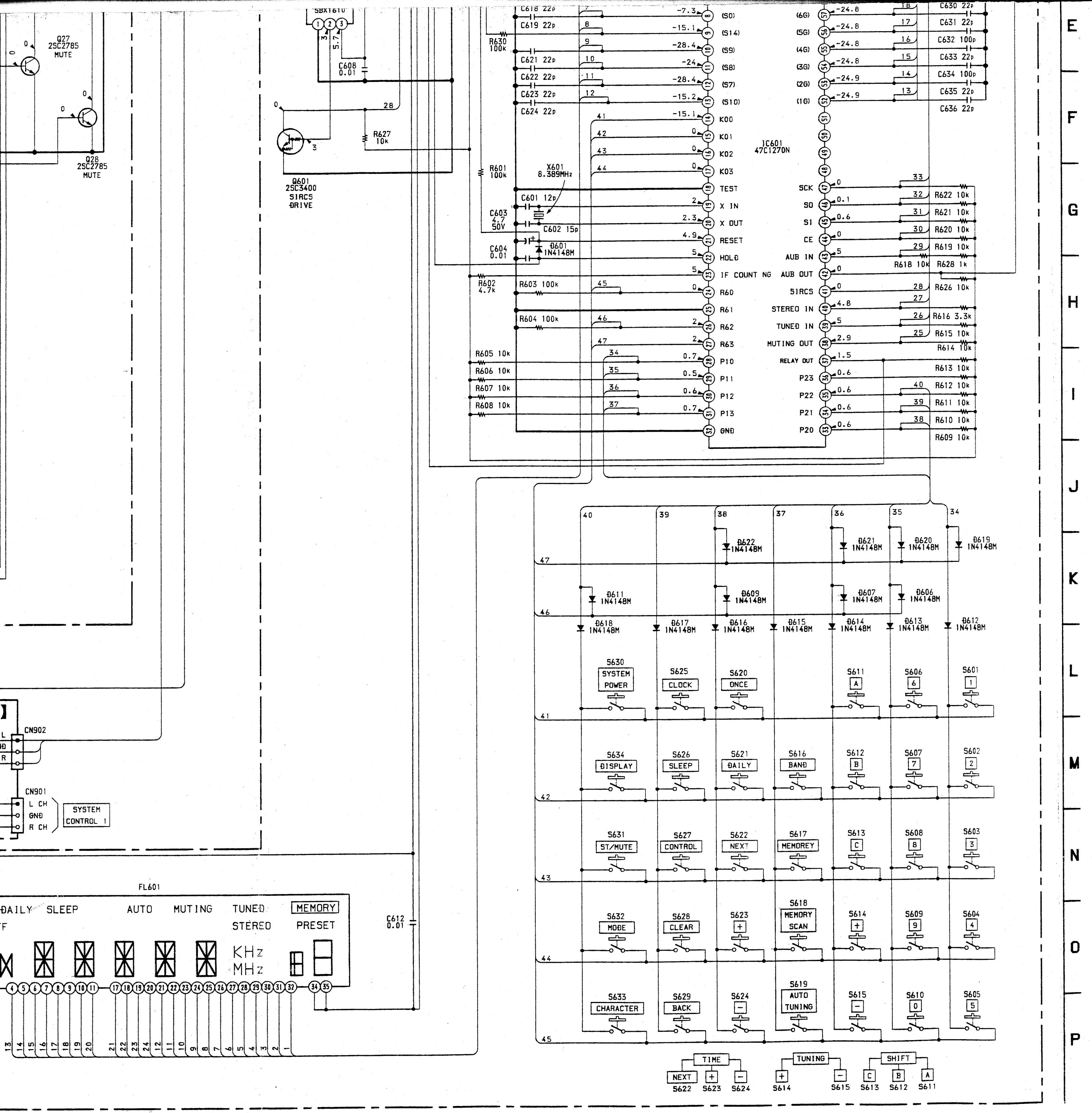
IC801 LA5667

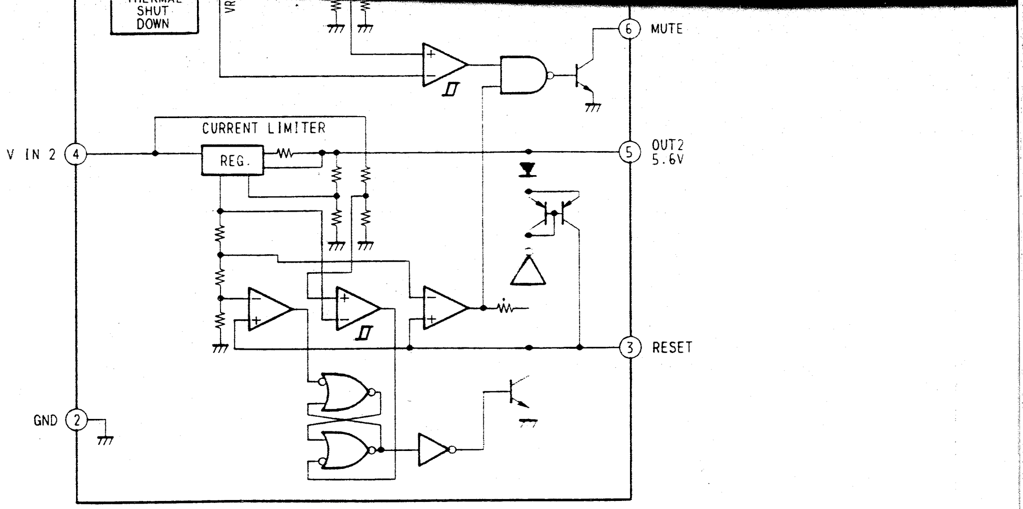

V IN 1
CURRENT LIMITER
REG.
THERMAL SHUT DOWN
VREF
OUT 13V
MUTE
V IN 2
REG.
OUT2 5.6V
RESET
GND

IC21 LA1851N

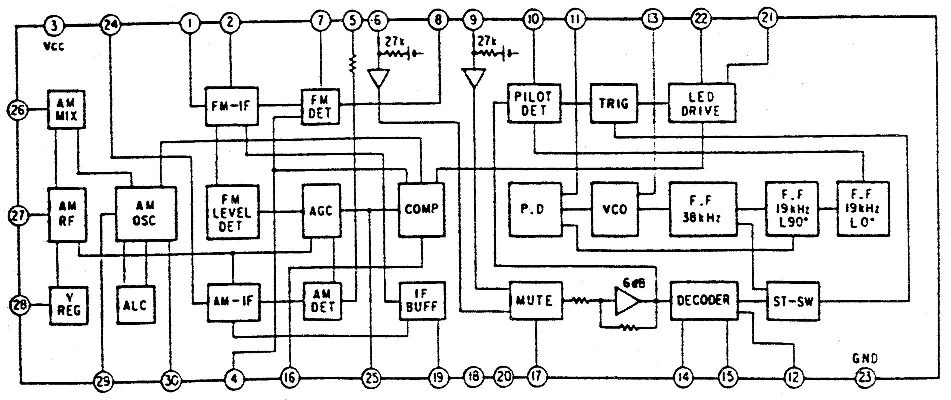

Vcc
AM MIX
FM-IF
FM DET
PILOT DET
TRIG
LED DRIVE
AM RF
AM OSC
FM LEVEL DET
AGC
COMP
P.D
VCO
F.F 38kHz
F.F 19kHz L90°
F.F 19kHz L0°
V REG
ALC
AM-IF
AM DET
IF BUFF
MUTE
6dB
DECODER
ST-SW
27k
GND


E
F
G
H
I
J
K
L
M
N
O
P
FE61
CC2
CC3
R63 22
R62 47k
C63 0.022
C64 0.022
C62 0.022
C61 0.022
R61 100k
TP1
T21 FM NULL
R25 8.2k
C31 0.47 50V
R31 470
C34 3.3 50V
C30 1 50V
C22 0.01
C21 0.047
C24 3.3 50V
C25 0.01
C23 330 16V
R21 82
C27 680p
R28 3.3k
RV21 2.2k
C33 0.0068
C35 0.0068
C38 10 50V
R32 10k
R33 10k
FM STEREO SEPARATION
R34 4.7k
C51 47 16V
R47 220
Q26 2SC3402 MUTING
Q22 GMA01
Q23 GMA01
Q24 GMA01
Q21 GMA01
R48 100k
C52 0.33 50V
R49 100k
Q27 2SC2785 MUTE
Q28 2SC2785 MUTE
R110 100
R91 1k
R89 1k
R88 4.7k
R90 10k
C85 0.01
C84 0.01
C83 0.01
Q23 2SA1348 VCO SW
Q24 2SC3402 VCO SW
R87 10k
Q81 2SA1348 FM/AM SWITCH
Q82 2SC3402 FM/AM SWITCH
R101 3.3k
R102 560
R106 2.2k
C101 2.2 50V
R105 4.7k
R107 4.7k
R108 100
R109 4.7k
Q83 2SK246GR3 LPF
R103 1k
Q84 2SC3113 LPF
R104 270
C102 0.1 50V
C105 47 16V
C104 0.01
C103 0.01
IC81 LC7218
IC81 PLL
XOUT
GND
PD2
PD1
VDD
FM OSC
AM OSC
MW
FM IF
AM IF
VCO STOP
XIN
CE
DI
CL
DO
IF REQ
SW1
SW2
FM
XT81 7.2MHZ
C82 27p
C81 27p
R81 1k
R82 1k
R83 1k
R84 1k
R85 10k
R86 1k
C86 47 16V
R92 47
C87 0.01
C88 0.01
CE
DI
CL
DO
GND
TUNED
STEREO
CNJ1
+5V
+13V
GND
MUTING
CNJ3
[POWER BOARD]
CN802
MUTING
GND
+13V
+5V
CN803
-30V
VF
HOLD
VF
+5V
GND
GND
AUB IN
AUB OUT
RELAY IN
MUTING
CN701
AUB IN
AUB OUT
CN702
AUB IN
AUB OUT
SYSTEM CONTROL 2
AU BUS
Q801 2SB1116A REG
Q802 2SC2603 RELAY DRIVE
R805 1k
R806 22k
R804 4.7k
R803 4.7k
R810 1k
IC801
IC801 REG
IC801 LA5667
V IN 1
GND
RESET
V IN 2
OUT 5V
MUT
OUT 13V
R802 10k
R809 47k
C808 4.7 50V
C807 47 16V
C806 47 16V
C805 0.01
C804 1000 35V
C803 0.01
D802 10E2
D803 10E2
C802 0.01
C812 47 50V
C813 10 50V
R808 4.7k
R807 150 1/4W
C811 100 63V
D806 UZL30L
D805 10E2
D804 10E2
C810 47 63V
Q803 2SB1116A REG
D807 UZP-5.6B
D701 1N4148M
Q701 2SC2603 BUFFER
R701 4.7k
R702 10k
R703 10
C814 22000p
R801 150 1W
D801 1N4148M
RY801
C801 0.01 400V
F801 5A 250V
PT801 POWER TRANSFORMER
S801 VOLTAGE SELECTOR
220-240V
120V
CN804
AC IN
E, JE
CNJ601
CNJ802
CN801
CNJ801
EA, AUS
AC OUTLET SWITCHED 450W MAX
[CONNECTOR BOARD]
CN902
L
GND
R
CN901
L CH
GND
R CH
SYSTEM CONTROL 1
FL601
ONCE DAILY SLEEP
AUTO
MUTING
TUNED
STEREO
ON OFF
KHz
MHz

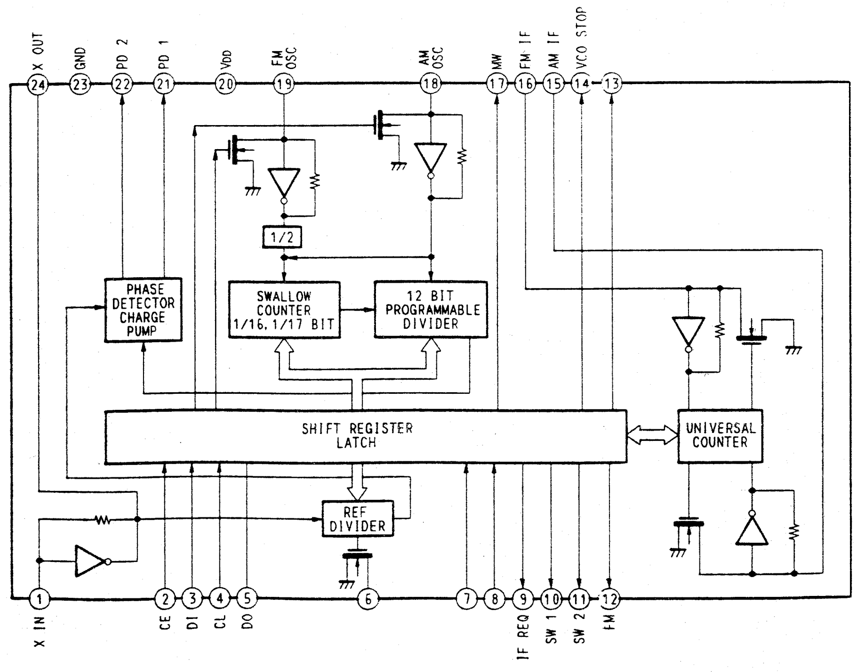

Q27
2SC2785
MUTE
Q28
2SC2785
MUTE
Q601
2SC3400
SIRCS
DRIVE
R627
10k
C608
0.01
R630
100k
R601
100k
X601
8.389MHz
C601 12p
C602 15p
C603
4.7
50V
C604
0.01
D601
1N4148M
R602
4.7k
R603 100k
R604 100k
R605 10k
R606 10k
R607 10k
R608 10k
IC601
47C1270N
TEST
X IN
X OUT
RESET
HOLD
IF COUNT NG
SCK
SO
SI
CE
AUB IN
AUB OUT
SIRCS
STEREO IN
TUNED IN
MUTING OUT
RELAY OUT
GND
R622 10k
R621 10k
R620 10k
R619 10k
R618 10k
R628 1k
R626 10k
R616 3.3k
R615 10k
R614 10k
R613 10k
R612 10k
R611 10k
R610 10k
R609 10k
S630 SYSTEM POWER
S625 CLOCK
S620 ONCE
S611 A
S606 6
S601 1
S634 DISPLAY
S626 SLEEP
S621 DAILY
S616 BAND
S612 B
S607 7
S602 2
S631 ST/MUTE
S627 CONTROL
S622 NEXT
S617 MEMOREY
S613 C
S608 8
S603 3
S632 MODE
S628 CLEAR
S623 +
S618 MEMORY SCAN
S614 +
S609 9
S604 4
S633 CHARACTER
S629 BACK
S624 −
S619 AUTO TUNING
S615 −
S610 0
S605 5
TIME
NEXT S622
+ S623
− S624
TUNING
+ S614
− S615
SHIFT
C S613
B S612
A S611
CN902
CN901
L CH
GND
R CH
SYSTEM CONTROL 1
FL601
DAILY
SLEEP
AUTO
MUTING
TUNED
STEREO
MEMORY
PRESET
KHz
MHz
C612
0.01
E
F
G
H
I
J
K
L
M
N
O
P


SHUT DOWN
MUTE
CURRENT LIMITER
REG.
V IN 2
OUT2
5.6V
RESET
GND

IC21 LA1851N


Vcc
AM MIX
AM RF
V REG
AM OSC
ALC
FM-IF
FM DET
FM LEVEL DET
AGC
AM-IF
AM DET
IF BUFF
COMP
PILOT DET
TRIG
LED DRIVE
P.D
VCO
F.F 38kHz
F.F 19kHz L90°
F.F 19kHz L0°
MUTE
6dB
DECODER
ST-SW
GND

IC81 LC7218


X OUT
GND
PD 2
PD 1
VDD
FM OSC
AM OSC
MW
FM IF
AM IF
VCO STOP
1/2
PHASE DETECTOR CHARGE PUMP
SWALLOW COUNTER 1/16,1/17 BIT
12 BIT PROGRAMMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
REF DIVIDER
X IN
CE
DI
CL
DO
IF REQ
SW 1
SW 2
FM

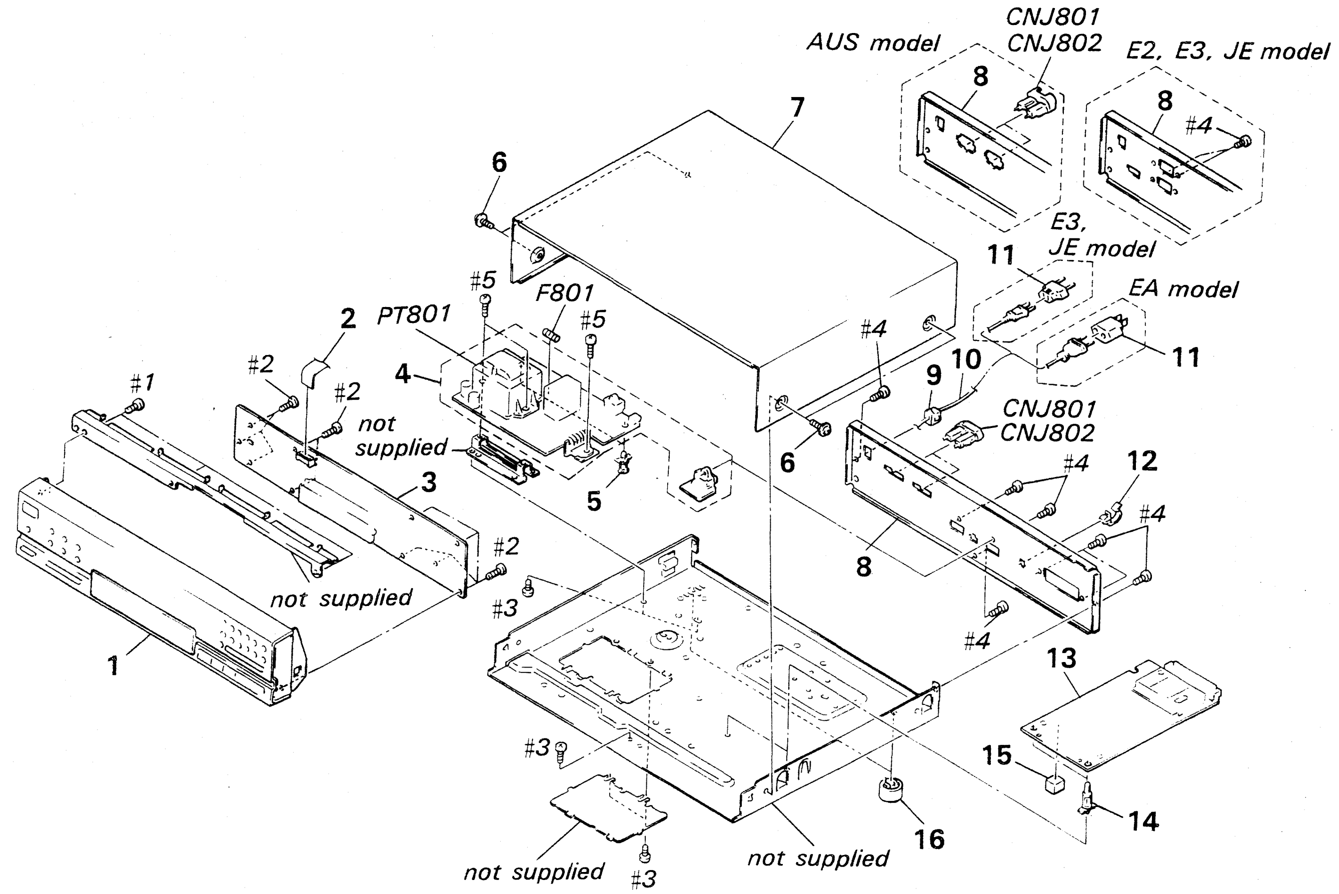
SECTION 4
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ Parts color ↑ Cabinet's color

- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

EA:Saudi Arabia
AUS:Australian
JE:Tourist



Ref. No.	Part No.	Description	Remark
1	X-4942-443-1	PANEL ASSY (50), FRONT (FOR LBT-A50)	
1	X-4942-446-1	PANEL ASSY (607), FRONT (FOR LBT-A60)	
1	X-4942-732-1	PANEL ASSY (70), FRONT (FOR LBT-A70)	
2	1-575-666-11	WIRE, FLAT TYPE (11 CORE)	
∗ 3	A-4347-293-A	PANEL BOARD, COMPLETE	
∗ 4	A-4347-279-A	POWER BOARD, COMPLETE (E2, E3, JE)	
∗ 4	A-4347-285-A	POWER BOARD, COMPLETE (EA, AUS)	
∗ 5	3-349-025-31	HOLDER, PC BOARD	
6	3-363-099-01	SCREW (CASE +3X8 TP2)	
∗ 7	4-939-802-31	CASE	
∗ 8	4-950-668-51	PANEL, BACK (E2, E3, JE)	
∗ 8	4-950-668-61	PANEL, BACK (EA)	
∗ 8	4-950-668-71	PANEL, BACK (AUS)	
∗ 9	3-703-244-00	BUSHING (2104), CORD (EA, AUS)	
∗ 9	3-703-571-11	BUSHING (S) (4516), CORD (E2, E3, JE)	
⚠10	1-575-651-11	CORD, POWER (EA)	
⚠10	1-575-653-11	CORD, POWER (E2, E3, JE)	
⚠10	1-590-083-11	CORD, POWER (AUS)	
11	1-569-007-11	ADAPTER, CONVERSION 2P (E3, JE)	
11	1-569-008-11	ADAPTER, CONVERSION 2P (EA)	
∗ 12	4-949-235-01	HOOK	
∗ 13	A-4347-287-A	TUNER (2QJ) BOARD, COMPLETE	
∗ 14	4-924-098-31	HOLDER, PC BOARD	
15	9-911-849-XX	CUSHION	
16	4-931-169-01	FOOT	
⚠F801	1-532-299-00	FUSE, TIME-LAG (5A 250V)	
⚠CNJ801	1-526-794-11	OUTLET, AC (EA)	
⚠CNJ801	1-540-196-11	OUTLET, AC (AUS)	
⚠CNJ802	1-526-794-11	OUTLET, AC (EA)	
⚠CNJ802	1-540-196-11	OUTLET, AC (AUS)	
⚠PT801	1-449-978-11	TRANSFORMER, POWER	

SECTION 5
ELECTRICAL PARTS LIST

PANEL POWER CONNECTOR

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- RESISTORS
  All resistors are in ohms
  METAL:Metal-film resistor
  METAL OXIDE:Metal Oxide-film resistor
  F:nonflammable
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indication parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

EA:Saudi Arabia
AUS:Australian
JE:Tourist

Ref. No.	Part No.	Description			Remark
∗	A-4347-293-A	PANEL BOARD, COMPLETE			
		∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗			
∗	A-4347-279-A	POWER BOARD, CCMPLETE (E, JE)			
∗	A-4347-285-A	POWER BOARD, CCMPLETE (EA, AUS)			
		∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗			
		CONNECTOR BOARD			
		∗∗∗∗∗∗∗∗∗∗∗∗∗∗∗			
∗	4-921-941-01	CUSHION (FL)			
∗	4-923-103-01	HOLDER, FL TUBE			
		< CAPACITOR >			
C601	1-162-201-31	CERAMIC	12PF	5%	50V
C602	1-162-203-31	CERAMIC	15PF	5%	50V
C603	1-126-163-11	ELECT	4.7uF	20%	50V
C604	1-164-096-11	CERAMIC	0.01uF		50V
C605	1-161-379-00	CERAMIC	0.01uF	20%	25V
C606	1-126-177-11	ELECT	100uF	20%	10V
C607	1-124-916-11	ELECT	22uF	20%	63V
C608	1-164-096-11	CERAMIC	0.01uF		50V
C609	1-126-157-11	ELECT	10uF	20%	16V
C610	1-126-157-11	ELECT	10uF	20%	16V
C611	1-164-096-11	CERAMIC	0.01uF		50V
C612	1-164-096-11	CERAMIC	0.01uF		50V
C613	1-162-207-31	CERAMIC	22PF	5%	50V
C614	1-162-207-31	CERAMIC	22PF	5%	50V
C615	1-162-207-31	CERAMIC	22PF	5%	50V
C616	1-162-207-31	CERAMIC	22PF	5%	50V
C617	1-162-207-31	CERAMIC	22PF	5%	50V
C618	1-162-207-31	CERAMIC	22PF	5%	50V
C619	1-162-207-31	CERAMIC	22PF	5%	50V
C621	1-162-207-31	CERAMIC	22PF	5%	50V
C622	1-162-207-31	CERAMIC	22PF	5%	50V
C623	1-162-207-31	CERAMIC	22PF	5%	50V
C624	1-162-207-31	CERAMIC	22PF	5%	50V
C625	1-162-207-31	CERAMIC	22PF	5%	50V
C626	1-162-207-31	CERAMIC	22PF	5%	50V
C627	1-162-207-31	CERAMIC	22PF	5%	50V
C628	1-162-207-31	CERAMIC	22PF	5%	50V
C629	1-162-282-31	CERAMIC	100PF	10%	50V
C630	1-162-207-31	CERAMIC	22PF	5%	50V
C631	1-162-207-31	CERAMIC	22PF	5%	50V
C632	1-162-282-31	CERAMIC	100PF	10%	50V
C633	1-162-207-31	CERAMIC	22PF	5%	50V
C634	1-162-282-31	CERAMIC	100PF	10%	50V
C635	1-162-207-31	CERAMIC	22PF	5%	50V
C636	1-162-207-31	CERAMIC	22PF	5%	50V
C801	1-161-744-00	CERAMIC	0.01uF		400V
C802	1-101-004-00	CERAMIC	0.01uF		50V
C803	1-101-004-00	CERAMIC	0.01uF		50V
C804	1-126-105-11	ELECT	1000uF	20%	35V
C805	1-164-096-11	CERAMIC	0.01uF		50V
C806	1-126-022-11	ELECT	47uF	20%	16V
C807	1-126-022-11	ELECT	47uF	20%	16V
C808	1-126-163-11	ELECT	4.7uF	20%	50V
C810	1-124-918-11	ELECT	47uF	20%	63V
C811	1-124-572-11	ELECT	100uF	20%	63V
C812	1-124-910-11	ELECT	47uF	20%	50V
C813	1-126-059-11	ELECT	10uF	20%	50V
C814	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
∗ CN601	1-568-854-11	SOCKET, CONNECTOR 11P			
∗ CN602	1-568-273-11	SOCKET, CONNECTOR 7P			
∗ CN701	1-156-625-11	SOCKET, CONNECTOR 3P			
∗ CN702	1-565-561-11	PIN, CONNECTOR 3P			

Ref. No.	Part N
CN801	1-535-
∗ CN802	1-568-
∗ CN803	1-568-
∗ CN804	1-564-
∗ CN901	1-569-
CN902	1-568-
⚠CNJ801	1-540-
D601	8-719-
D602	8-719-
D603	8-719-
D604	8-719-
D606	8-719-
D607	8-719-
D609	8-719-
D611	8-719-
D612	8-719-
D613	8-719-
D614	8-719-
D615	8-719-
D616	8-719-
D617	8-719-
D618	8-719-
D619	8-719-
D620	8-719-
D621	8-719-
D622	8-719-
D701	8-719-
D801	8-719-
D802	8-719-
D803	8-719-
D804	8-719-
D805	8-719-
D806	8-719-
D807	8-719-
⚠F801	1-532-
∗ FH801	1-533-
∗ FH802	1-533-

The compone
mark ⚠ or do
⚠ are critical
Replace only
specified.

y reference
the board name.

ntified by
with mark
y.
rt number

		Remark
	5%	50V
	5%	50V
	5%	50V
	5%	50V
	5%	50V
	5%	50V
	5%	50V
	10%	50V
	5%	50V
	5%	50V
	10%	50V
	5%	50V
	10%	50V
	5%	50V
	5%	50V
F		400V
F		50V
F		50V
F	20%	35V
F		50V
	20%	16V
	20%	16V
	20%	50V
	20%	63V
	20%	63V
	20%	50V
	20%	50V
uF		25V

PANEL POWER CONNECTOR

Ref. No.	Part No.	Description	Remark
CN801	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P	(EA. AUS)
* CN802	1-568-308-11	SOCKET, CONNECTOR 4P	
* CN803	1-568-830-11	SOCKET, CONNECTOR 11P	
* CN804	1-564-321-00	PIN, CONNECTOR 2P	
* CN901	1-569-625-41	SOCKET, CONNECTOR 3P	
CN902	1-568-269-11	SOCKET, CONNECTOR 3P	
		< OUTLET >	
⚠CNJ801	1-540-040-11	OUTLET, AC (NONPOLAR) (2P)	(E, JE)
		< DIODE >	
D601	8-719-987-63	DIODE 1N4148M	
D602	8-719-987-63	DIODE 1N4148M	
D603	8-719-987-63	DIODE 1N4148M	
D604	8-719-987-63	DIODE 1N4148M	
D606	8-719-987-63	DIODE 1N4148M	
D607	8-719-987-63	DIODE 1N4148M	
D609	8-719-987-63	DIODE 1N4148M	
D611	8-719-987-63	DIODE 1N4148M	
D612	8-719-987-63	DIODE 1N4148M	
D613	8-719-987-63	DIODE 1N4148M	
D614	8-719-987-63	DIODE 1N4148M	
D615	8-719-987-63	DIODE 1N4148M	
D616	8-719-987-63	DIODE 1N4148M	
D617	8-719-987-63	DIODE 1N4148M	
D618	8-719-987-63	DIODE 1N4148M	
D619	8-719-987-63	DIODE 1N4148M	
D620	8-719-987-63	DIODE 1N4148M	
D621	8-719-987-63	DIODE 1N4148M	
D622	8-719-987-63	DIODE 1N4148M	
D701	8-719-987-63	DIODE 1N4148M	
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-200-77	DIODE 10E2N	
D803	8-719-200-77	DIODE 10E2N	
D804	8-719-200-77	DIODE 10E2N	
D805	8-719-200-77	DIODE 10E2N	
D806	8-719-934-22	DIODE HZS30-2L	
D807	8-719-014-66	DIODE UZP-5. 6B	
		< FUSE >	
⚠F801	1-532-299-00	FUSE, TIME-LAG (5A 250V)	
		< FUSE HOLDER >	
* FH801	1-533-213-31	HOLDER, FUSE	
* FH802	1-533-213-31	HOLDER, FUSE	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		< FLUORESCENT INDICATOR >	
FL601	1-519-728-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC601	8-759-053-98	IC TMP47C1270AN-H204	
IC602	8-741-100-48	IC SBX1610-59	
IC801	8-759-820-09	IC LA5667	
		< TRANSFORMER >	
⚠PT801	1-449-978-11	TRANSFORMER, POWER	
		< TRANSISTOR >	
Q601	8-729-900-36	TRANSISTOR DTC124ES	
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q801	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q802	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q803	8-729-140-04	TRANSISTOR 2SB1116A-L	
		< RESISTOR >	
R601	1-249-441-11	CARBON 100K 5% 1/4W	
R602	1-249-429-11	CARBON 10K 5% 1/4W	
R603	1-249-441-11	CARBON 100K 5% 1/4W	
R604	1-249-441-11	CARBON 100K 5% 1/4W	
R605	1-249-429-11	CARBON 10K 5% 1/4W	
R606	1-249-429-11	CARBON 10K 5% 1/4W	
R607	1-249-429-11	CARBON 10K 5% 1/4W	
R608	1-249-429-11	CARBON 10K 5% 1/4W	
R609	1-249-429-11	CARBON 10K 5% 1/4W	
R610	1-249-429-11	CARBON 10K 5% 1/4W	
R611	1-249-429-11	CARBON 10K 5% 1/4W	
R612	1-249-429-11	CARBON 10K 5% 1/4W	
R613	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R614	1-249-429-11	CARBON 10K 5% 1/4W	
R615	1-249-429-11	CARBON 10K 5% 1/4W	
R616	1-249-423-11	CARBON 3. 3K 5% 1/4W	
R618	1-249-417-11	CARBON 1K 5% 1/4W	
R619	1-249-429-11	CARBON 10K 5% 1/4W	
R620	1-249-429-11	CARBON 10K 5% 1/4W	
R621	1-249-429-11	CARBON 10K 5% 1/4W	
R622	1-249-429-11	CARBON 10K 5% 1/4W	
R623	1-249-405-11	CARBON 100 5% 1/4W	
R624	1-249-417-11	CARBON 1K 5% 1/4W	
R625	1-249-441-11	CARBON 100K 5% 1/4W	
R626	1-249-429-11	CARBON 10K 5% 1/4W	
R627	1-249-429-11	CARBON 10K 5% 1/4W	
R628	1-249-417-11	CARBON 1K 5% 1/4W	
R629	1-249-417-11	CARBON 1K 5% 1/4W	
R630	1-249-441-11	CARBON 100K 5% 1/4W	

PANEL POWER CONNECTOR TUNER

Ref. No.	Part No.	Description	Remark
R631	1-249-385-11	CARBON 2. 2 5% 1/4W	
R701	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R702	1-249-429-11	CARBON 10K 5% 1/4W	
R703	1-249-393-11	CARBON 10 5% 1/4W	
⚠R801	1-215-864-00	METAL OXIDE 150 5% 1W	F
R802	1-249-429-11	CARBON 10K 5% 1/4W	
R803	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R804	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R805	1-249-417-11	CARBON 1K 5% 1/4W	
R806	1-249-433-11	CARBON 22K 5% 1/4W	
⚠R807	1-247-702-11	CARBON 150 5% 1/4W	F
R808	1-249-425-11	CARBON 4. 7K 5% 1/4W	
R809	1-249-437-11	CARBON 47K 5% 1/4W	
R810	1-249-417-11	CARBON 1K 5% 1/4W	
		< RELAY >	
RY801	1-515-617-11	RELAY	
		< SWITCH >	
S601	1-554-303-21	SWITCH, TACTILE (1)	
S602	1-554-303-21	SWITCH, TACTILE (2)	
S603	1-554-303-21	SWITCH, TACTILE (3)	
S604	1-554-303-21	SWITCH, TACTILE (4)	
S605	1-554-303-21	SWITCH, TACTILE (5)	
S606	1-554-303-21	SWITCH, TACTILE (6)	
S607	1-554-303-21	SWITCH, TACTILE (7)	
S608	1-554-303-21	SWITCH, TACTILE (8)	
S609	1-554-303-21	SWITCH, TACTILE (9)	
S610	1-554-303-21	SWITCH, TACTILE (0)	
S611	1-554-303-21	SWITCH, TACTILE (SHIFT A)	
S612	1-554-303-21	SWITCH, TACTILE (SHIFT B)	
S613	1-554-303-21	SWITCH, TACTILE (SHIFT C)	
S614	1-554-303-21	SWITCH, TACTILE (TUNING +)	
S615	1-554-303-21	SWITCH, TACTILE (TUNING -)	
S616	1-554-303-21	SWITCH, TACTILE (BAND)	
S617	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S618	1-554-303-21	SWITCH, TACTILE (MEMORY SCAN)	
S619	1-554-303-21	SWITCH, TACTILE (AUTO TUNING)	
S620	1-554-303-21	SWITCH, TACTILE (ONCE)	
S621	1-554-303-21	SWITCH, TACTILE (DAILY)	
S622	1-554-303-21	SWITCH, TACTILE (TIME NEXT)	
S623	1-554-303-21	SWITCH, TACTILE (TIME +)	
S624	1-554-303-21	SWITCH, TACTILE (TIME -)	
S625	1-554-303-21	SWITCH, TACTILE (CLOCK)	
S626	1-554-303-21	SWITCH, TACTILE (SLEEP)	
S627	1-554-303-21	SWITCH, TACTILE (CONTROL)	
S628	1-554-303-21	SWITCH, TACTILE (CLEAR)	
S629	1-554-303-21	SWITCH, TACTILE (BACK)	
S630	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
S631	1-554-303-21	SWITCH, TACTILE (ST/MUTE)	
S632	1-554-303-21	SWITCH, TACTILE (MODE)	
S633	1-554-303-21	SWITCH, TACTILE (CHARACTER)	
S634	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
⚠S801	1-571-722-11	SWITCH, VOLTAGE SELECTION	
		< CRYSTAL >	
X601	1-579-564-11	VIBRATOR, CRYSTAL (8. 389MHz)	

****

Ref. No.	Part No.	Description	Remark
*	A-4347-287-A	TUNER BOARD, COMPLETE ********************	
	1-630-140-14	TUNER BOARD	
*	4-924-988-11	PLATE (ST), GROUND	
		< CAPACITOR >	
C1	1-162-294-31	CERAMIC 0. 001uF 20% 25V	
C2	1-124-477-11	ELECT 47uF 20% 25V	
C3	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C4	1-162-294-31	CERAMIC 0. 001uF 20% 25V	
C5	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C6	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C9	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C21	1-101-006-00	CERAMIC 0. 047uF 50V	
C22	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C23	1-124-119-00	ELECT 330uF 20% 16V	
C24	1-123-382-00	ELECT 3. 3uF 20% 100V	
C25	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C26	1-162-527-11	CERAMIC CHIP 0. 0068uF 20% 12V	
C27	1-162-516-11	CERAMIC CHIP 100PF 10% 50V	
C28	1-124-903-11	ELECT 1uF 20% 50V	
C30	1-124-903-11	ELECT 1uF 20% 50V	
C31	1-124-902-00	ELECT 0. 47uF 20% 50V	
C32	1-124-463-00	ELECT 0. 1uF 20% 50V	
C33	1-130-481-00	MYLAR 0. 0068uF 5% 50V	
C34	1-123-382-00	ELECT 3. 3uF 20% 100V	
C35	1-130-481-00	MYLAR 0. 0068uF 5% 50V	
C36	1-123-382-00	ELECT 3. 3uF 20% 100V	
C37	1-124-907-11	ELECT 10uF 20% 50V	
C38	1-124-907-11	ELECT 10uF 20% 50V	
C39	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C40	1-124-463-00	ELECT 0. 1uF 20% 50V	
C41	1-124-927-11	ELECT 4. 7uF 20% 100V	
C42	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C43	1-126-176-11	ELECT 220uF 20% 10V	
C44	1-163-059-00	CERAMIC CHIP 0. 01uF 20% 16V	
C45	1-123-382-00	ELECT 3. 3uF 20% 100V	
C46	1-162-524-11	CERAMIC 0. 0022uF 20% 25V	
C48	1-123-382-00	ELECT 3. 3uF 20% 100V	

TUNER

Ref. No.	Part No.	Description			Remark
C49	1-162-524-11	CERAMIC	0.0022uF	20%	25V
C51	1-124-477-11	ELECT	47uF	20%	25V
C52	1-124-252-00	ELECT	0.33uF	20%	50V
C61	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C62	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C63	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C64	1-163-063-00	CERAMIC CHIP	0.022uF		25V
C81	1-102-961-00	CERAMIC	27PF	5%	50V
C82	1-102-961-00	CERAMIC	27PF	5%	50V
C83	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C84	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C85	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C86	1-124-477-11	ELECT	47uF	20%	25V
C87	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C88	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C101	1-124-925-11	ELECT	2.2uF	20%	100V
C102	1-124-463-00	ELECT	0.1uF	20%	50V
C103	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C104	1-163-059-00	CERAMIC CHIP	0.01uF	20%	16V
C105	1-124-477-11	ELECT	47uF	20%	25V
		< CARBON MELF >			
CC2	1-249-366-11	CARBON MELF	0	5%	1/5W
CC3	1-249-366-11	CARBON MELF	0	5%	1/5W
		< CERAMIC FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC			
CF21	1-577-075-11	OSCILLATOR, CERAMIC			
CFT21	1-404-853-11	TRANSFORMER, IF (CERAMIC FILTER)			
		< CONNECTOR >			
* CNJ1	1-568-273-11	SOCKET, CONNECTOR 7P			
* CNJ3	1-568-308-11	SOCKET, CONNECTOR 4P			
CNJ4	1-568-269-11	SOCKET, CONNECTOR 3P			
		< DIODE >			
D21	8-719-987-63	DIODE	1N4148M		
D22	8-719-987-63	DIODE	1N4148M		
D23	8-719-987-63	DIODE	1N4148M		
D24	8-719-987-63	DIODE	1N4148M		
		< FRONT END >			
FE1	1-463-862-21	FRONT END, FM			
FE61	1-236-461-11	ENCAPSULATED COMPONENT			
		< IC >			
IC21	8-759-821-45	IC	LA1851N		
IC81	8-759-820-91	IC	LC7218		

Ref. No.	Part No.	Description				Remark
		< COIL >				
L1	1-410-645-31	INDUCTOR	100uH			
L21	1-410-171-11	INDUCTOR	1mmH			
		< FILTER >				
LPF21	1-235-164-00	FILTER, LOW PASS				
LPF22	1-235-164-00	FILTER, LOW PASS				
		< TRANSISTOR >				
Q1	8-729-230-XX	TRANSISTOR	2SC2669-OY			
Q2	8-729-230-XX	TRANSISTOR	2SC2669-OY			
Q21	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q22	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q23	8-729-900-61	TRANSISTOR	DTA114ES			
Q24	8-729-900-80	TRANSISTOR	DTC114ES			
Q26	8-729-900-80	TRANSISTOR	DTC114ES			
Q27	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q28	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q81	8-729-900-61	TRANSISTOR	DTA114ES			
Q82	8-729-900-80	TRANSISTOR	DTC114ES			
Q83	8-729-202-67	TRANSISTOR	2SK246-GR3			
Q84	8-729-230-93	TRANSISTOR	2SC3113-AB			
		< RESISTOR >				
⚠ R1	1-249-401-11	CARBON	47	5%	1/4W	F
R3	1-249-329-11	CARBON MELF	330	5%	1/8W	
R4	1-249-329-11	CARBON MELF	330	5%	1/8W	
R5	1-249-329-11	CARBON MELF	330	5%	1/8W	
R6	1-249-350-11	CARBON MELF	18K	5%	1/8W	
R7	1-249-329-11	CARBON MELF	330	5%	1/8W	
R8	1-249-332-11	CARBON MELF	560	5%	1/8W	
R9	1-249-352-11	CARBON MELF	27K	5%	1/8W	
⚠ R21	1-249-404-00	CARBON	82	5%	1/4W	F
R22	1-249-430-11	CARBON	12K	5%	1/4W	
R23	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R24	1-249-353-11	CARBON MELF	33K	5%	1/8W	
R25	1-249-346-11	CARBON MELF	8.2K	5%	1/8W	
R27	1-249-432-11	CARBON	18K	5%	1/4W	
R28	1-249-423-11	CARBON	3.3K	5%	1/4W	
R29	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R31	1-249-331-11	CARBON MELF	470	5%	1/8W	
R32	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R33	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R34	1-249-425-11	CARBON	4.7K	5%	1/4W	
R35	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R37	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R38	1-249-363-11	CARBON MELF	220K	5%	1/8W	
R39	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TUNER

Ref. No.	Part No.	Description				Remark
R40	1-249-338-11	CARBON MELF	1.8K	5%	1/8W	
R41	1-249-344-11	CARBON MELF	5.6K	5%	1/8W	
R42	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R43	1-249-363-11	CARBON MELF	220K	5%	1/8W	
R44	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R45	1-249-338-11	CARBON MELF	1.8K	5%	1/8W	
R46	1-249-344-11	CARBON MELF	5.6K	5%	1/8W	
⚠R47	1-249-409-11	CARBON	220	5%	1/4W	F
R48	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R49	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R61	1-249-359-11	CARBON MELF	100K	5%	1/8W	
R62	1-249-355-11	CARBON MELF	47K	5%	1/8W	
R63	1-249-315-11	CARBON MELF	22	5%	1/8W	
R81	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R82	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R83	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R84	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R85	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R86	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R87	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R88	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R89	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R90	1-249-347-11	CARBON MELF	10K	5%	1/8W	
R91	1-249-335-11	CARBON MELF	1K	5%	1/8W	
⚠R92	1-249-401-11	CARBON	47	5%	1/4W	F
R101	1-249-341-11	CARBON MELF	3.3K	5%	1/8W	
R102	1-249-332-11	CARBON MELF	560	5%	1/8W	
R103	1-249-335-11	CARBON MELF	1K	5%	1/8W	
R104	1-249-328-11	CARBON MELF	270	5%	1/8W	
R105	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R106	1-249-339-11	CARBON MELF	2.2K	5%	1/8W	
R107	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
R108	1-249-323-11	CARBON MELF	100	5%	1/8W	
R109	1-249-343-11	CARBON MELF	4.7K	5%	1/8W	
⚠R110	1-249-405-11	CARBON	100	5%	1/4W	F
		< VARIABLE RESISTOR >				
RV21	1-238-013-11	RES, ADJ, CARBON 2.2K				
RV22	1-238-017-11	RES, ADJ, CARBON 22K				
RV24	1-238-017-11	RES, ADJ, CARBON 22K				
		< TRANSFORMER >				
T21	1-404-807-11	TRANSFORMER, DISCRIMINATOR				
		< TERMINAL BOARD >				
TM1	1-537-238-21	TERMINAL BOARD (ANT)				

Ref. No.	Part No.	Description	Remark
		< TEST POINT >	
* TP1	1-560-060-00	PIN, CONNECTOR 2P	
		< CRYSTAL >	
XT81	1-577-126-11	VIBRATOR, CRYSTAL (7.2MHz)	

****

MISCELLANEOUS
****

2	1-575-666-11	WIRE, FLAT TYPE (11 CORE)
⚠10	1-575-651-11	CORD, POWER (EA)
⚠10	1-575-653-11	CORD, POWER (E2, E3, JE)
⚠10	1-590-083-11	CORD, POWER (AUS)
11	1-569-007-11	ADAPTER, CONVERSION 2P (E3, JE)
11	1-569-008-11	ADAPTER, CONVERSION 2P (EA)
⚠CNJ801	1-526-794-11	OUTLET, AC (EA)
⚠CNJ801	1-540-196-11	OUTLET, AC (AUS)
⚠CNJ802	1-526-794-11	OUTLET, AC (EA)
⚠CNJ802	1-540-196-11	OUTLET, AC (AUS)
⚠F801	1-532-299-00	FUSE, TIME-LAG (5A 250V)

****

ACCESSORIES & PACKING MATERIALS
****

	4-920-940-01	SHEET (A), PROTECTION
*	4-929-563-01	CUSHION

****

HARDWARE LIST

#1	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#2	7-621-773-93	SCREW (PANEL 2.6 TP2)
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#4	7-621-849-00	SCREW (BV/RING)
#5	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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9-957-161-11

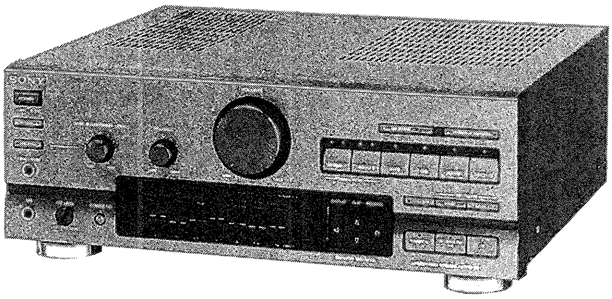
Sony Corporation
Audio Group

Published by Customer Relations and Service Group

TA-A60

SERVICE MANUAL

E Model
Australian Model



This set is the amplifier section in LBT-A60/A60CD/A60CDM.

SPECIFICATIONS

Continuous RMS power output	70 W + 70 W (6 ohms, at 1 kHz, 5% THD)
Peak Music power output	850 W (4 speakers driven)

Input	Jack type	Sensitivity	Impedance
VIDEO1/DAT	Phono	245 mV	47 kohms
VIDEO2	Phono	245 mV	47 kohms
PHONO (MM)	Phono	3.3 mV	47 kohms
MIC	Phone	1 mV	10 kohms

Audio output	Jack type	Voltage	Impedance
VIDEO 1/DAT	Phono	200 mV	2 kohms
SURROUND SPEAKER	Phono	Accepts speakers of 8 to 16 ohms	
HEADPHONES	Stereophone	Accepts headphones of 8 ohms or more	

Video output (phono jacks)	
VIDEO 1/DAT	1 Vp-p, 75 ohm unbalanced, sync negative
MONITOR	1 Vp-p, 75 ohm unbalanced, sync negative
Frequency response	15 Hz to 50 kHz $^{+0}_{-3}$ dB
Power requirements	120 V/220 V/240 V AC, adjustable with the voltage selector, 50/60 Hz
Power consumption	190 W
Weight	Approx. 6.5 kg
Dimensions	Approx. 355 × 132 × 320 mm (w/h/d, including projections)

Design and specifications are subject to change without notice.

INTEGRATED STEREO AMPLIFIER

SONY®

TABLE OF CONTENTS

Section *Title* *Page*

SECTION 1. GENERAL 3

SECTION 2. DIAGRAMS

2-1. Circuit Boards Location 3

2-2. Schematic Diagrams — Panel Section — 4

2-3. Schematic Diagrams — Main Section — 8

2-4. Printed Wiring Boards 13

2-5. Semiconductor Lead Layouts 18

SECTION 3. EXPLODED VIEWS

3-1. Cabinet Section 20

3-2. Main Board Section 21

SECTION 4. ELECTRICAL PARTS LIST 22

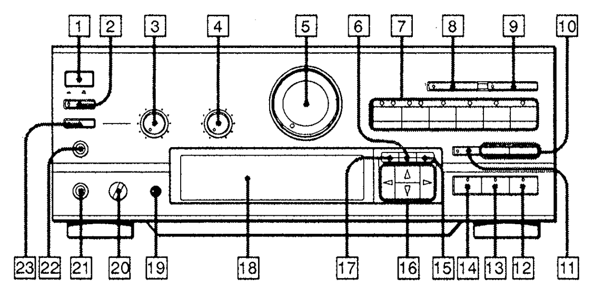
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

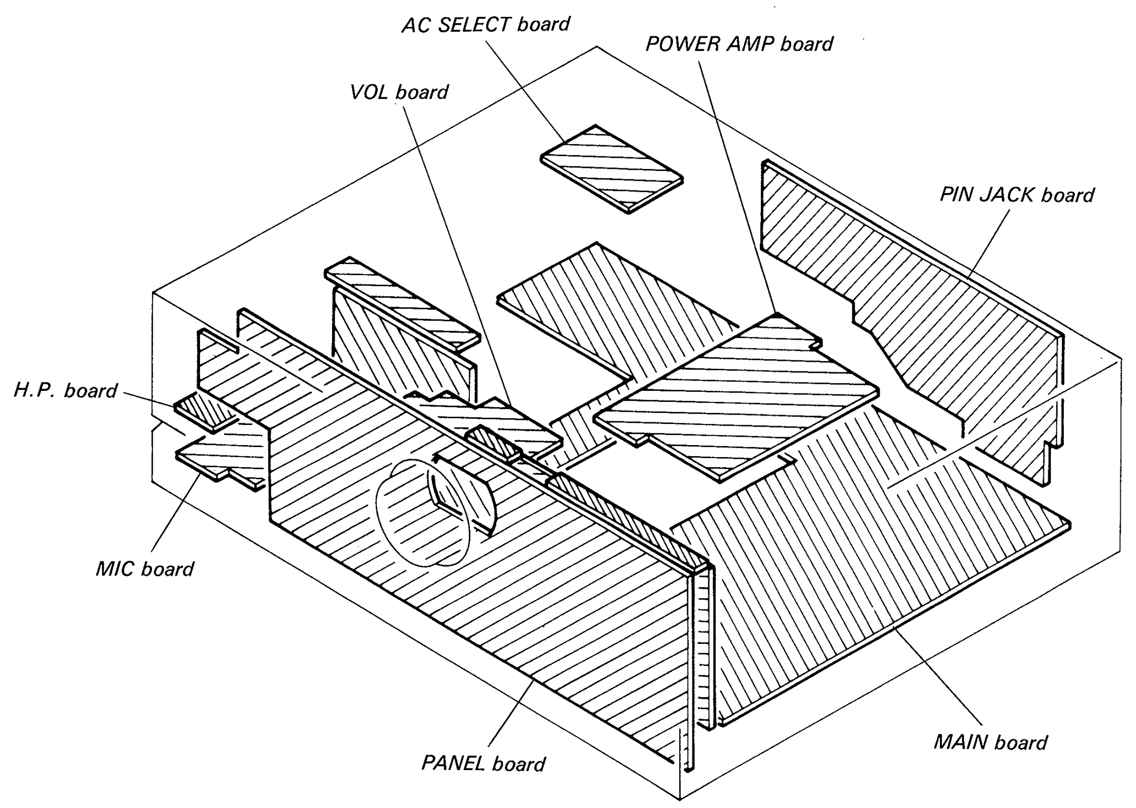
Location of Controls



- 1 POWER switch (16)
- 2 EFFECT button and indicator (80)
- 3 BASS SYNTHESIZER LEVEL control (18)
- 4 BALANCE control (18)
- 5 VOLUME control and indicator (18)
- 6 FLAT button (82)
- 7 Function selectors and indicators
- 8 CD DIRECT button and indicator (18)
- 9 PROGRAM FUNCTION button and indicator (140)
- 10 SURROUND MODE and SURROUND LEVEL buttons (74)
- 11 MEMORY button and indicator (84)
- 12 EQ button and indicator (78)
- 13 PERSONAL FILE 1 – 5 button and indicator (86)
- 14 SELECT 10 button and indicator (76)
- 15 REVERSE button (82)
- 16 CURSOR CONTROL buttons (76, 78, 84, 86)
- 17 DISPLAY button (82)
- 18 Display window
- 19 KARAOKE PON button and indicator (70)
- 20 MIC (microphone) LEVEL control (68)
- 21 MIC (microphone) jack (68)
- 22 HEADPHONES jack
- 23 BASS SYNTHE(sizer) button and indicator (18)

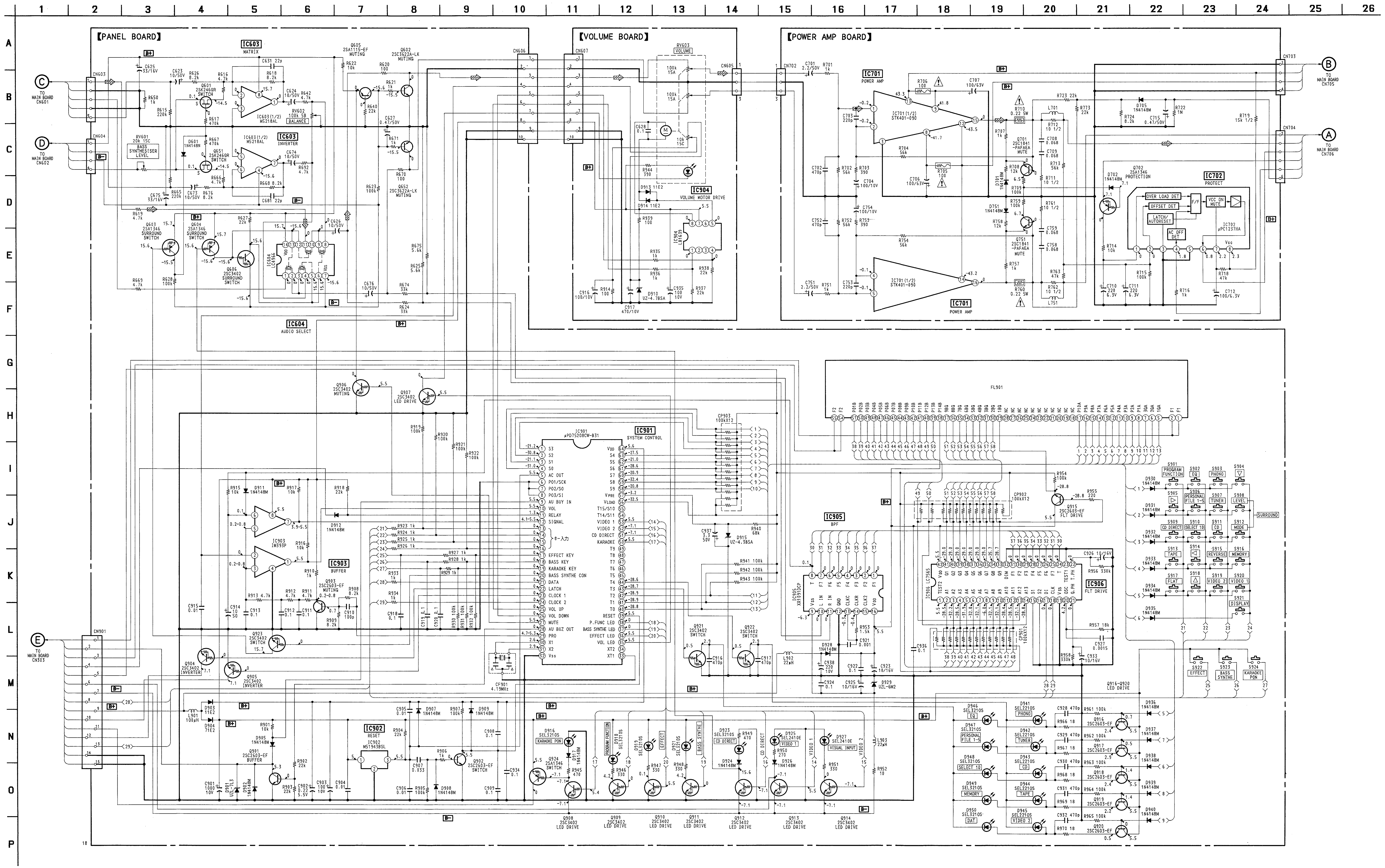
SECTION 2
DIAGRAMS

2-1. CIRCUIT BOARDS LOCATION


AC SELECT board
VOL board
POWER AMP board
PIN JACK board
H.P. board
MIC board
PANEL board
MAIN board

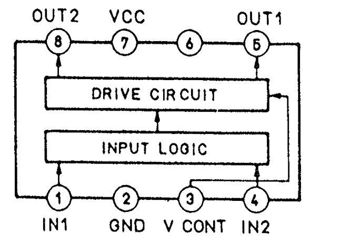
Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : printed resistor.
- B+ : B+ Line
- B– : B– Line
- ☐ : adjustment for repair.
- ※ : selected to yield optimum performance.
- AC voltage readings in the bias oscillator with a VTVM.
- Total current is measured with no cassette installed.
- Power voltage is dc V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

2-2. SCHEMATIC DIAGRAMS – PANEL Section –

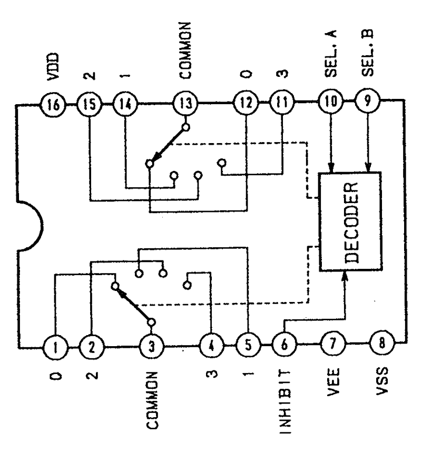

【PANEL BOARD】
【VOLUME BOARD】
【POWER AMP BOARD】
IC603 MATRIX
IC603 INVERTER
IC604 AUDIO SELECT
IC904 VOLUME MOTOR DRIVE
IC701 POWER AMP
IC702 PROTECT
IC901 SYSTEM CONTROL
IC902 RESET
IC903 BUFFER
IC905 BPF
IC906 FLT DRIVE
FL901
TO MAIN BOARD CN601
TO MAIN BOARD CN602
TO MAIN BOARD CN705
TO MAIN BOARD CN706
TO MAIN BOARD CN303
A
B
C
D
E

- IC Block Diagrams

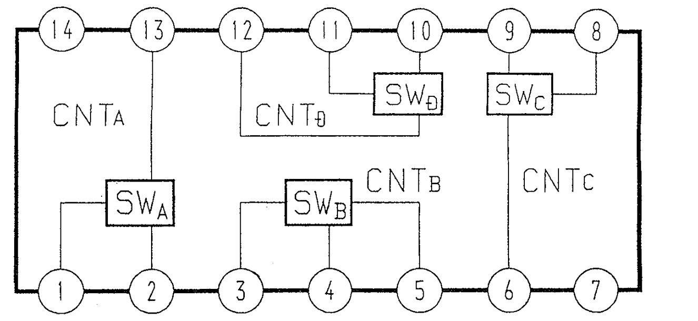
IC904 LB1639


OUT2
VCC
OUT1
DRIVE CIRCUIT
INPUT LOGIC
IN1
GND
V CONT
IN2

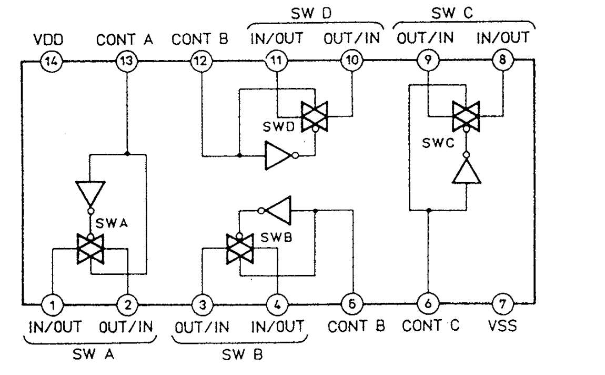
IC102 MC14052BCP


VDD
COMMON
SEL.A
SEL.B
DECODER
INHIBIT
VEE
VSS

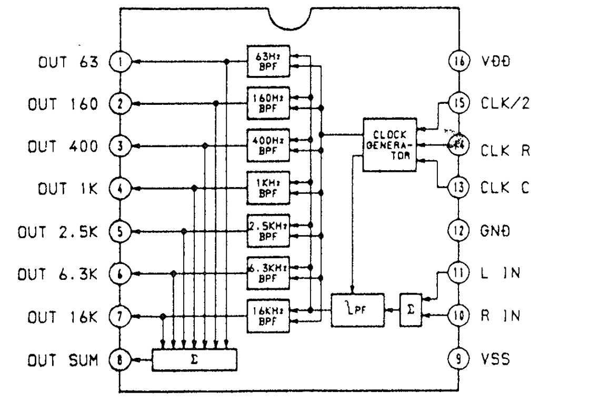
IC103 μ MC14066BCP


CNTA
CNTB
CNTC
SWA
SWB
SWC

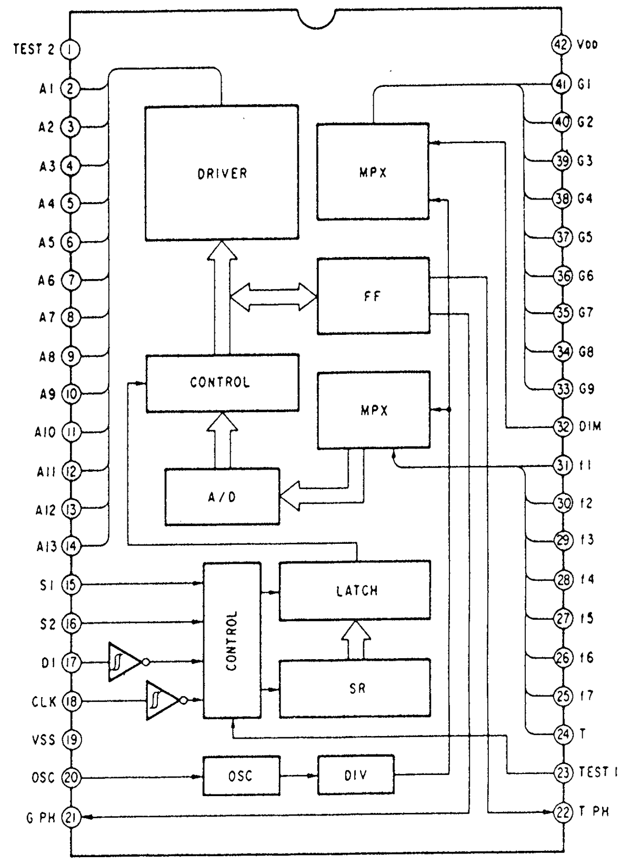
IC604 LC4966


VDD
CONT A
CONT B
SW D
SW C
IN/OUT
OUT/IN
SWA
SWB
SWC
SWD
CONT C
VSS
SW A
SW B

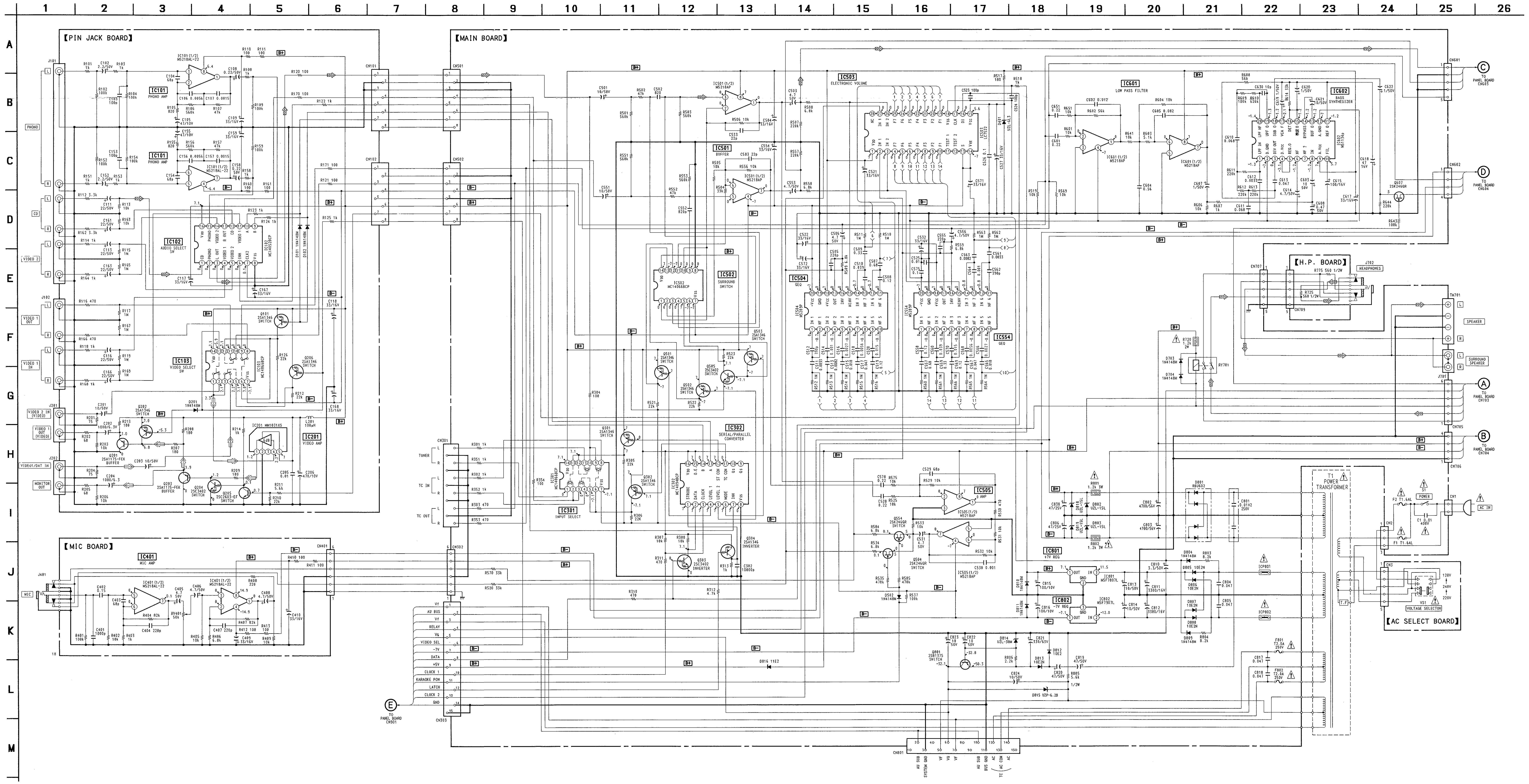
IC905 XR1091DCP


OUT 63
OUT 160
OUT 400
OUT 1K
OUT 2.5K
OUT 6.3K
OUT 16K
OUT SUM
VDD
CLK/2
CLK R
CLK C
GND
L IN
R IN
VSS

IC906 LC7565K


TEST 2
DRIVER
MPX
FF
CONTROL
A/D
LATCH
SR
OSC
DIV
CLK
VSS
TEST 1
VDD

2-3. SCHEMATIC DIAGRAMS – MAIN Section –

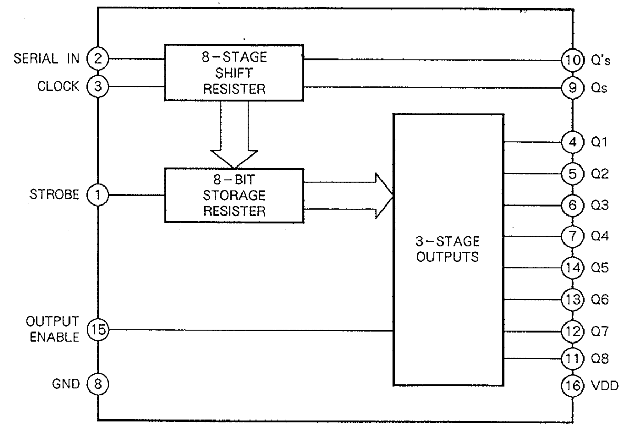

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
A
B
C
D
E
F
G
H
I
J
K
L
M
【PIN JACK BOARD】
【MAIN BOARD】
【MIC BOARD】
【H.P. BOARD】
【AC SELECT BOARD】
IC101 PHONO AMP
IC102 AUDIO SELECT
IC103 VIDEO SELECT
IC201 VIDEO AMP
IC401 MIC AMP
IC301 INPUT SELECT
IC302 SERIAL/PARALLEL CONVERTER
IC501 BUFFER
IC502 SURROUND SWITCH
IC503 ELECTRONIC VOLUME
IC504 SEQ
IC554 SEQ
IC505
IC601 LOW PASS FILTER
IC602 SYNTHESIZER
IC801
IC802
PHONO
CD
VIDEO 2
VIDEO 1 OUT
VIDEO 1 IN
MONITOR OUT
MIC
TUNER
TC IN
TC OUT
HEADPHONES
SPEAKER
SURROUND SPEAKER
T1 POWER TRANSFORMER
VOLTAGE SELECTOR
POWER
TO PANEL BOARD

Note:

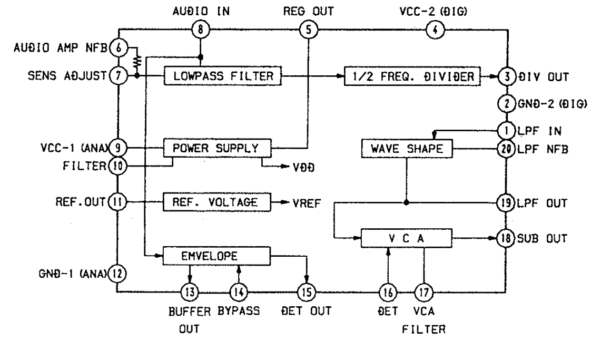
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : printed resistor.
- B+ : B+ Line
- B– : B– Line
- ▭ : adjustment for repair.
- ※ : selected to yield optimum performance.
- AC voltage readings in the bias oscillator with a VTVM.
- Total current is measured with no cassette installed.
- Power voltage is dc V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ➩ : CD

● IC Block Diagrams

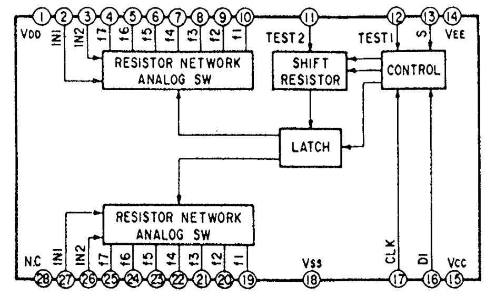
IC302 MC14094BCP


SERIAL IN 2
CLOCK 3
STROBE 1
OUTPUT ENABLE 15
GND 8
8-STAGE SHIFT RESISTER
8-BIT STORAGE RESISTER
3-STAGE OUTPUTS
10 Q's
9 Qs
4 Q1
5 Q2
6 Q3
7 Q4
14 Q5
13 Q6
12 Q7
11 Q8
16 VDD

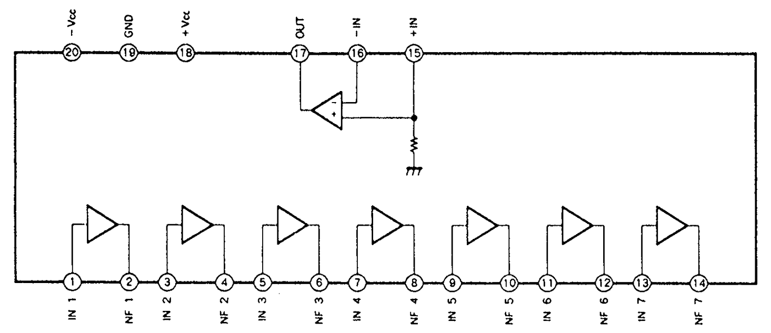
IC602 M51134P


AUDIO IN 8
REG OUT 5
VCC-2 (DIG) 4
AUDIO AMP NFB 6
SENS ADJUST 7
VCC-1 (ANA) 9
FILTER 10
REF.OUT 11
GND-1 (ANA) 12
LOWPASS FILTER
1/2 FREQ. DIVIDER
POWER SUPPLY
VDD
REF. VOLTAGE
VREF
EMVELOPE
WAVE SHAPE
V C A
3 DIV OUT
2 GND-2 (DIG)
1 LPF IN
20 LPF NFB
19 LPF OUT
18 SUB OUT
13 BUFFER OUT
14 BYPASS
15 DET OUT
16 DET
17 VCA FILTER

IC503 LC7522K


VDD
IN1
IN2
f7
f6
f5
f4
f3
f2
f1
TEST2
TEST1
S
VEE
RESISTOR NETWORK ANALOG SW
SHIFT RESISTOR
CONTROL
LATCH
RESISTOR NETWORK ANALOG SW
N.C
IN1
IN2
f7
f6
f5
f4
f3
f2
f1
Vss
CLK
DI
Vcc

IC504 M5289P


–Vcc 20
GND 19
+Vcc 18
OUT 17
–IN 16
+IN 15
IN 1
NF 1
IN 2
NF 2
IN 3
NF 3
IN 4
NF 4
IN 5
NF 5
IN 6
NF 6
IN 7
NF 7

- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D101	F-32	D928	K-6	Q206	E-33
D102	F-32	D929	J-8	Q301	D-20
D201	D-32	D930	G-2	Q302	C-20
D401	F-20	D931	J-2	Q303	F-20
D502	J-18	D932	K-3	Q304	F-20
D601	H-13	D933	J-3	Q501	D-17
D701	E-15	D934	J-5	Q502	D-17
D702	E-14	D935	K-5	Q503	D-18
D703	B-21	D936	H-2	Q504	H-17
D704	B-21	D937	J-4	Q505	D-16
D705	C-13	D938	J-4	Q554	H-17
D751	E-15	D939	I-3	Q601	H-13
D801	H-28	D940	I-5	Q602	H-10
D802	J-20	D941	H-2	Q603	H-11
D803	J-19	D942	H-3	Q604	H-11
D804	H-26	D943	H-3	Q605	G-11
D805	H-26	D944	H-4	Q606	H-11
D806	H-27	D945	H-5	Q607	J-18
D807	H-26	D946	J-2	Q651	H-13
D808	H-26	D947	J-3	Q652	H-9
D809	H-26	D948	J-3	Q701	E-15
D810	J-17	D949	J-4	Q702	E-14
D811	J-17	D950	H-5	Q751	F-15
D812	H-29			Q801	J-28
D813	H-29	IC101	J-33	Q901	D-5
D814	J-28	IC102	J-31	Q902	F-2
D815	J-27	IC103	E-32	Q903	D-6
D816	J-18	IC201	D-33	Q904	C-2
		IC301	C-19	Q905	C-3
D818	J-20	IC302	E-20	Q906	D-6
D819	J-20	IC401	E-23	Q907	E-5
D901	D-3	IC501	F-17	Q908	F-4
D902	D-3	IC502	E-17	Q909	E-5
D903	D-2	IC503	F-19	Q910	E-5
D904	C-2	IC504	G-19	Q911	E-5
D905	D-3	IC505	G-17	Q912	F-4
D906	D-2	IC554	E-19	Q913	F-3
D907	D-2	IC601	H-18	Q914	F-3
D908	E-2	IC602	I-19	Q915	J-8
D909	D-2	IC603	H-13	Q916	I-2
D910	D-9	IC604	H-12	Q917	I-2
D911	C-6	IC701	C-15	Q918	I-3
D912	D-3	IC702	E-14	Q919	I-4
D913	D-10	IC801	J-17	Q920	J-5
D914	D-10	IC802	J-17	Q921	F-4
D915	E-5	IC901	D-4	Q922	F-4
D916	K-12	IC902	D-2	Q923	E-6
D917	K-13	IC903	C-5	Q924	B-2
D918	H-3	IC904	C-9		
D919	H-15	IC905	K-8		
D921	I-15	IC906	J-10		
D923	H-4				
D924	G-4	Q101	E-32		
D925	H-6	Q201	D-33		
D926	G-3	Q202	D-33		
D927	H-5	Q203	D-33		
		Q204	D-33		
		Q205	D-33		

2-4. PRINTED WIRING BOARDS

• See page 3 for Circuit boards location. • See page 18 for Semiconductor lead leyouts.

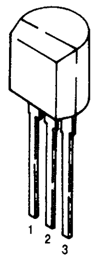
Note:

● —— : parts extracted from the component side.

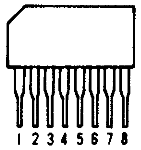
SURROUND MODE
OFF HALL SIMULATED
SURRLEVEL
LOW MID HIGH
MOVIE
BGM
WM
JAZZ CLUB
STADIUM
POPS
DISCO
CAR
SYMPHONY
TV NEWS
FL901 FLUORESCENT INDICATOR TUBE
[PANEL BOARD]
[VOL BOARD]
[POWER AMP BOARD]
[MAIN BOARD]
[MIC BOARD]
[H.P. BOARD]
[AC SELECT BOARD]
[PIN JACK BOARD]
SYSTEM CONTROL 1
SYSTEM CONTROL 2
SURROUND SPEAKER
SPEAKER
F801 T2.0AL
F802 T2.0AL
VOLTAGE SELECTOR

2-5. SEMICONDUCTOR LEAD LAYOUTS

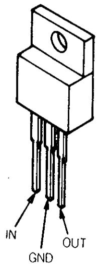
M51943BSL



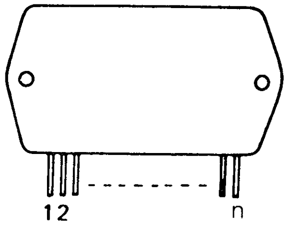
M5218AL
M5218AL-22



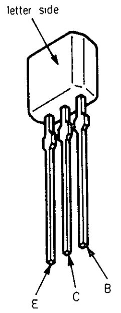
M5F7807
M5F7907



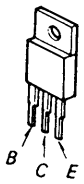
STK4190-MK2



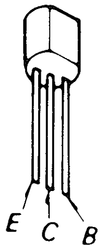
2SA1175-FEK
2SA1175-HFE
DTA124ES


letter side
E
C
B

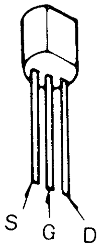
2SB1094-LK



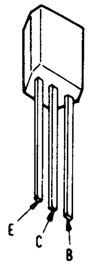
2SC1841-PAFAEA



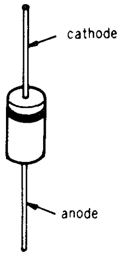
2SK246GR



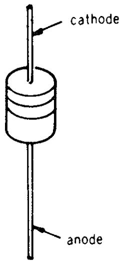
DTC114ES



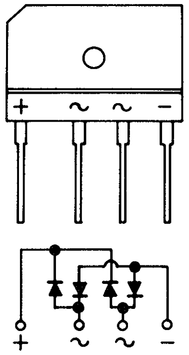
10E2
10E2N


cathode
anode

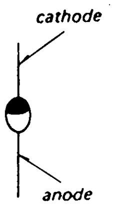
HZS30-2L
UZ-4.7BSA
UZL-15L


cathode
anode

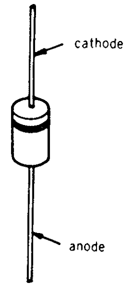
RBV-602-01



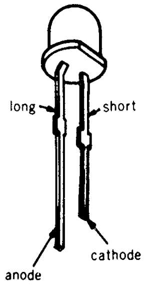
UZ-4.3BSA


cathode
anode

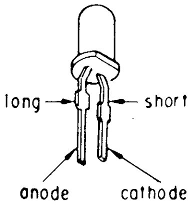
UZP-6.2B-TP


cathode
anode

SEL2210-D


long
short
anode
cathode

SEL2410E-D


long
short
anode
cathode

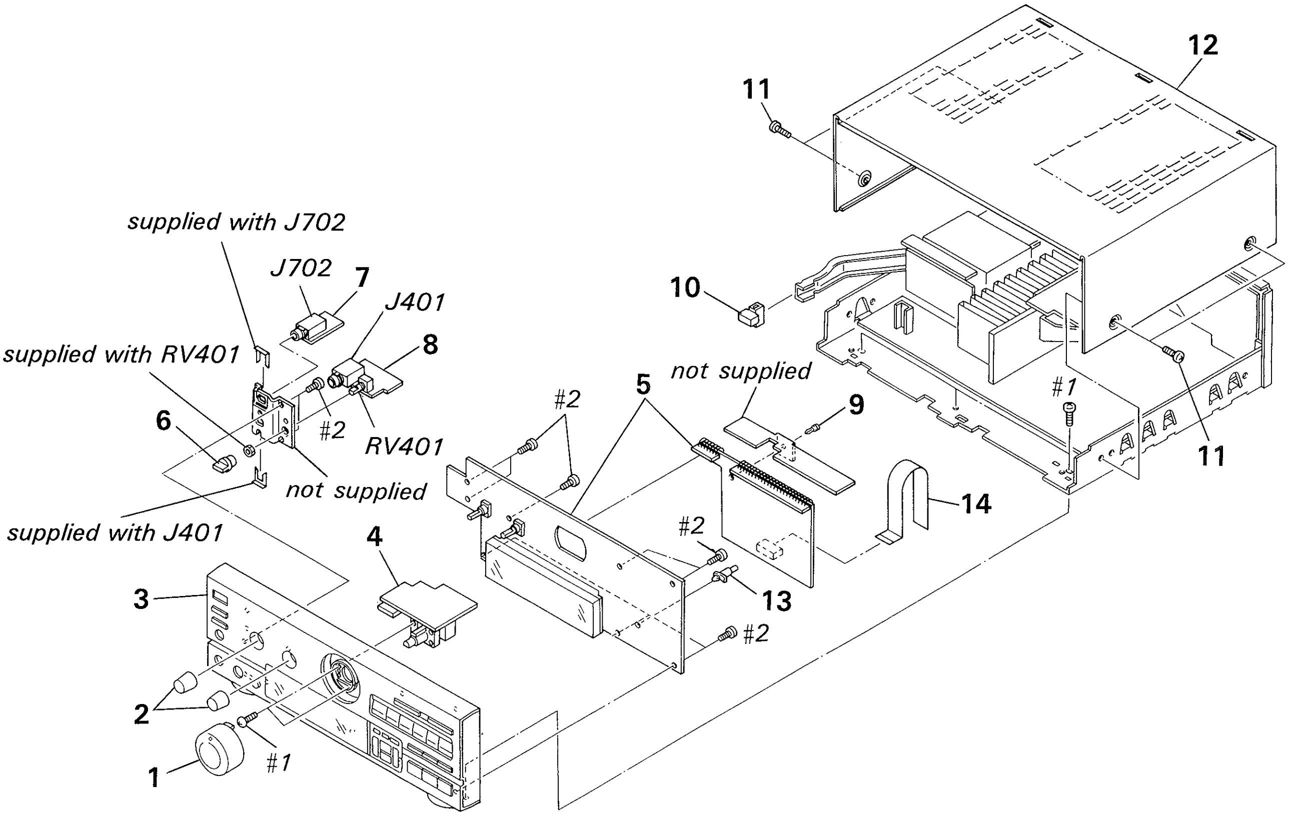
SECTION 3
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

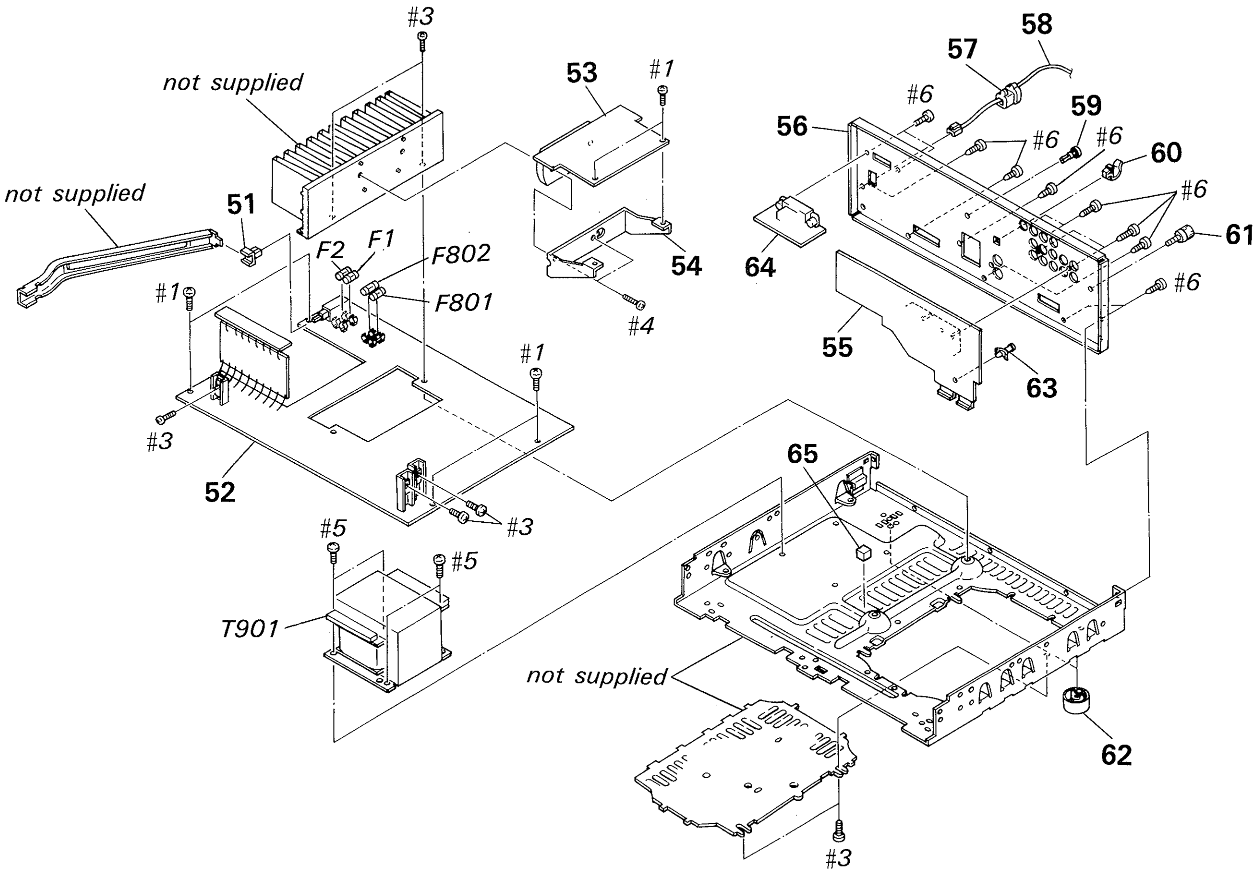
EA: Saudi Arabia
AUS: Australian

3-1. CABINET SECTION


12
11
supplied with J702
J702
7
J401
10
8
supplied with RV401
5
not supplied
#2
9
6
#2
RV401
#1
11
not supplied
14
supplied with J401
4
#2
3
13
#2
2
1
#1

Ref. No.	Part No.	Description	Remark
1	X-4942-418-1	KNOB ASSY, ROUND	
2	4-950-651-11	KNOB (DIA. 16), ROUND	
3	X-4942-415-1	PANEL ASSY, FRONT	
∗ 4	1-643-547-11	VOL BOARD	
∗ 5	A-4347-262-A	PANEL BOARD, COMPLETE	
6	4-950-652-11	KNOB (DIA. 12), ROUND	
∗ 7	1-643-546-11	H.P. BOARD	
∗ 8	1-643-545-11	MIC BOARD	
9	4-812-134-11	RIVET NYLON, 3.5	
10	4-942-061-11	BUTTON (P)	
11	3-363-099-01	SCREW (CASE +3X8 TP2)	
∗ 12	4-949-912-11	CASE	
∗ 13	4-924-098-31	HOLDER, PC BOARD	
14	1-690-095-11	WIRE, FLAT TYPE (15 CORE)	
J401	1-507-854-00	JACK, PHONE (MIC)	
J702	1-507-854-00	JACK, PHONE (HEADPHONES)	
RV401	1-241-317-11	RES, VAR, CARBON 50K (MIC LEVEL)	

3-2. MAIN BOARD SECTION


#3
not supplied
53
#1
58
57
#6
59
56
#6
#6
60
#6
61
not supplied
51
F2
F1
F802
54
64
F801
#1
#4
#6
#3
52
55
63
65
#1
#5
#3
#5
T901
not supplied
62
#3

Ref. No.	Part No.	Description	Remark
51	4-866-342-00	JOINT (B), KNOB	
* 52	A-4347-255-A	MAIN BOARD, COMPLETE	
* 53	A-4347-261-A	POWER AMP BOARD, COMPLETE	
* 54	4-943-903-01	BRACKET	
* 55	A-4347-264-A	PIN JACK BOARD, COMPLETE	
* 56	4-950-653-31	PANEL (B3120), BACK	
* 57	3-703-244-00	BUSHING (2104), CORD (EA, AUS)	
* 57	3-703-571-11	BUSHING (S) (4516), CORD (E)	
⚠ 58	1-575-651-11	CORD, POWER (EA)	
⚠ 58	1-575-656-11	CORD, POWER (E)	
⚠ 58	1-690-056-11	CORD, POWER (AUS)	
* 59	4-912-181-21	SUPPORT, PC	
* 60	4-949-235-01	HOOK	
61	4-947-010-01	SCREW, FEEDER FIXED	
62	4-931-169-01	FOOT	
* 63	3-349-025-31	HOLDER, PC BOARD	
* 64	1-643-550-11	AC SELECT BOARD	
65	9-911-843-XX	CUSHION (B), PC BOARD	
⚠ F1	1-532-259-00	FUSE (T1.6A)	
⚠ F2	1-532-259-00	FUSE (T1.6A)	
⚠ F801	1-532-203-00	FUSE (T2.0A)	
⚠ F802	1-532-203-00	FUSE (T2.0A)	
⚠ T901	1-450-871-11	TRANSFORMER, POWER	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 4
ELECTRICAL PARTS LIST

H. P. | MAIN | POWER AMP | AC SELECT

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- RESISTORS
  All resistors are in ohms
  METAL:Metal-film resistor
  METAL OXIDE:Metal Oxide-film resistor
  F:nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indication parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

EA:Saudi Arabia
AUS:Australian

Ref. No.	Part No.	Description			Remark
*	1-643-546-11	H.P. BOARD			
		**********			
		< CONNECTOR >			
* CN709	1-564-508-11	PLUG, CONNECTOR 5P			
		< JACK >			
J702	1-507-854-00	JACK, PHONE (HEADPHONES)			
		< RESISTOR >			
R725	1-247-749-11	CARBON	560	5%	1/2W
R775	1-247-749-11	CARBON	560	5%	1/2W
**					
*	A-4347-255-A	MAIN BOARD, COMPLETE			
		********************			
*	A-4347-261-A	POWER AMP BOARD, COMPLETE			
		*************************			
*	1-643-550-11	AC SELECT BOARD			
		***************			
*	1-533-213-31	HOLDER, FUSE			
*	3-309-144-21	HEAT SINK			
*	4-941-237-01	HEAT SINK			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
⚠C1	1-161-744-00	CERAMIC	0.01uF		400V
C302	1-162-306-11	CERAMIC	0.01uF	20%	16V
C501	1-126-059-11	ELECT	10uF	20%	50V
C502	1-130-470-00	MYLAR	820PF	5%	50V
C503	1-126-163-11	ELECT	4.7uF	20%	50V
C504	1-124-034-51	ELECT	33uF	20%	16V
C505	1-162-286-31	CERAMIC	220PF	10%	50V
C506	1-126-163-11	ELECT	4.7uF	20%	50V
C507	1-136-175-00	FILM	0.68uF	5%	50V
C508	1-136-166-00	FILM	0.12uF	5%	50V
C509	1-136-171-00	FILM	0.33uF	5%	50V
C510	1-136-160-00	FILM	0.039uF	5%	50V
C511	1-130-477-00	MYLAR	0.0033uF	5%	50V
C512	1-164-080-11	CERAMIC	390PF	10%	50V
C513	1-130-482-00	MYLAR	0.0082uF	5%	50V
C514	1-106-343-00	MYLAR	1000PF	5%	200V
C515	1-136-156-00	FILM	0.018uF	5%	50V
C516	1-106-353-00	MYLAR	0.0027uF	5%	50V
C517	1-136-161-00	FILM	0.047uF	5%	50V
C518	1-130-480-00	MYLAR	0.0056uF	5%	50V
C519	1-136-166-00	FILM	0.12uF	5%	50V
C520	1-136-155-00	FILM	0.015uF	5%	50V
C521	1-124-034-51	ELECT	33uF	20%	16V
C522	1-124-034-51	ELECT	33uF	20%	16V
C523	1-162-282-31	CERAMIC	100PF	10%	50V
C524	1-162-282-31	CERAMIC	100PF	10%	50V
C525	1-130-483-00	MYLAR	0.01uF	5%	50V
C526	1-164-159-11	CERAMIC	0.1uF		50V
C527	1-124-034-51	ELECT	33uF	20%	16V
C528	1-136-169-00	FILM	0.22uF	5%	50V
C529	1-164-066-11	CERAMIC	68PF	5%	50V
C530	1-106-343-00	MYLAR	1000PF	5%	200V
C531	1-126-163-11	ELECT	4.7uF	20%	50V
C532	1-124-034-51	ELECT	33uF	20%	16V
C533	1-164-054-11	CERAMIC	22PF	5%	50V
C551	1-126-059-11	ELECT	10uF	20%	50V
C552	1-130-470-00	MYLAR	820PF	5%	50V
C553	1-126-163-11	ELECT	4.7uF	20%	50V
C554	1-124-034-51	ELECT	33uF	20%	16V
C555	1-162-286-31	CERAMIC	220PF	10%	50V
C556	1-126-163-11	ELECT	4.7uF	20%	50V
C557	1-136-175-00	FILM	0.68uF	5%	50V
C558	1-136-166-00	FILM	0.12uF	5%	50V

Ref. No.	Part No.	Description			Remark
C559	1-136-171-00	FILM	0.33uF	5%	50V
C560	1-136-160-00	FILM	0.039uF	5%	50V
C561	1-130-477-00	MYLAR	0.0033uF	5%	50V
C562	1-164-080-11	CERAMIC	390PF	10%	50V
C563	1-130-482-00	MYLAR	0.0082uF	5%	50V
C564	1-106-343-00	MYLAR	1000PF	5%	200V
C565	1-136-156-00	FILM	0.018uF	5%	50V
C566	1-106-353-00	MYLAR	0.0027uF	5%	50V
C567	1-136-161-00	FILM	0.047uF	5%	50V
C568	1-130-480-00	MYLAR	0.0056uF	5%	50V
C569	1-136-166-00	FILM	0.12uF	5%	50V
C570	1-136-155-00	FILM	0.015uF	5%	50V
C571	1-124-034-51	ELECT	33uF	20%	16V
C572	1-124-034-51	ELECT	33uF	20%	16V
C575	1-164-159-11	CERAMIC	0.1uF		50V
C578	1-136-169-00	FILM	0.22uF	5%	50V
C583	1-164-054-11	CERAMIC	22PF	5%	50V
C601	1-136-169-00	FILM	0.22uF	5%	50V
C602	1-136-154-00	FILM	0.012uF	5%	50V
C603	1-126-059-11	ELECT	10uF	20%	50V
C604	1-136-174-00	FILM	0.56uF	5%	50V
C605	1-136-164-00	FILM	0.082uF	5%	50V
C607	1-126-301-11	ELECT	1uF	20%	50V
C608	1-126-300-11	ELECT	0.47uF	20%	50V
C610	1-136-163-00	FILM	0.068uF	5%	50V
C611	1-136-163-00	FILM	0.068uF	5%	50V
C612	1-130-477-00	MYLAR	0.0033uF	5%	50V
C613	1-136-161-00	FILM	0.047uF	5%	50V
C614	1-126-163-11	ELECT	4.7uF	20%	50V
C615	1-126-023-11	ELECT	100uF	20%	16V
C617	1-124-034-51	ELECT	33uF	20%	16V
C618	1-126-022-11	ELECT	47uF	20%	16V
C619	1-126-301-11	ELECT	1uF	20%	50V
C620	1-126-301-11	ELECT	1uF	20%	50V
C621	1-126-059-11	ELECT	10uF	20%	50V
C622	1-126-301-11	ELECT	1uF	20%	50V
C630	1-164-019-11	CERAMIC	10PF	0.5PF	50V
C651	1-136-169-00	FILM	0.22uF	5%	50V
C701	1-126-161-11	ELECT	2.2uF	20%	50V
C702	1-164-081-11	CERAMIC	470PF	10%	50V
C703	1-162-286-31	CERAMIC	220PF	10%	50V
C704	1-124-994-11	ELECT	100uF	20%	10V
C706	1-124-572-11	ELECT	100uF	20%	63V
C707	1-124-572-11	ELECT	100uF	20%	63V
C708	1-136-163-00	FILM	0.068uF	5%	50V
C709	1-136-163-00	FILM	0.068uF	5%	50V
C710	1-124-587-11	ELECT	220uF	20%	6.3V
C711	1-124-587-11	ELECT	220uF	20%	6.3V
C712	1-124-443-00	ELECT	100uF	20%	10V

Ref. No.	Part No.	Description			Remark
C715	1-126-300-11	ELECT	0.47uF	20%	50V
C751	1-126-161-11	ELECT	2.2uF	20%	50V
C752	1-164-081-11	CERAMIC	470PF	10%	50V
C753	1-162-286-31	CERAMIC	220PF	10%	50V
C754	1-124-994-11	ELECT	100uF	20%	10V
C758	1-136-163-00	FILM	0.068uF	5%	50V
C759	1-136-163-00	FILM	0.068uF	5%	50V
C801	1-102-394-11	CERAMIC	0.01uF		250V
C802	1-126-258-11	ELECT	4700uF	20%	56V
C803	1-126-258-11	ELECT	4700uF	20%	56V
C804	1-161-021-11	CERAMIC	0.047uF	10%	25V
C805	1-161-021-11	CERAMIC	0.047uF	10%	25V
C806	1-124-910-11	ELECT	47uF	20%	50V
C810	1-126-162-11	ELECT	3.3uF	20%	50V
C811	1-124-887-00	ELECT	3300uF	20%	16V
C812	1-124-887-00	ELECT	3300uF	20%	16V
C813	1-126-059-11	ELECT	10uF	20%	50V
C814	1-126-059-11	ELECT	10uF	20%	50V
C815	1-124-994-11	ELECT	100uF	20%	10V
C816	1-124-994-11	ELECT	100uF	20%	10V
C817	1-161-021-11	CERAMIC	0.047uF	10%	25V
C818	1-161-021-11	CERAMIC	0.047uF	10%	25V
C819	1-124-910-11	ELECT	47uF	20%	50V
C820	1-124-910-11	ELECT	47uF	20%	50V
C821	1-124-920-11	ELECT	330uF	20%	63V
C822	1-126-059-11	ELECT	10uF	20%	50V
C823	1-126-059-11	ELECT	10uF	20%	50V
C824	1-126-059-11	ELECT	10uF	20%	50V
C830	1-124-910-11	ELECT	47uF	20%	50V

< CONNECTOR >

Ref. No.	Part No.	Description
* CN1	1-564-321-00	PIN, CONNECTOR 2P
* CN2	1-535-140-00	BASE POST 22MM (10MM PITCH) 3P
* CN3	1-573-565-11	PIN, CONNECTOR 5P
* CN301	1-566-858-41	SOCKET, CONNECTOR 11P
* CN302	1-564-509-11	PLUG, CONNECTOR 6P
* CN303	1-568-834-11	SOCKET, CONNECTOR 15P
CN501	1-568-319-11	SOCKET, CONNECTOR 8P
CN502	1-568-319-11	SOCKET, CONNECTOR 8P
* CN601	1-564-508-11	PLUG, CONNECTOR 5P
* CN602	1-564-507-11	PLUG, CONNECTOR 4P
* CN702	1-564-518-11	PLUG, CONNECTOR 3P
* CN703	1-564-519-11	PLUG, CONNECTOR 4P
* CN704	1-564-521-11	PLUG, CONNECTOR 6P
* CN705	1-564-509-11	PLUG, CONNECTOR 6P
CN706	1-564-507-11	PLUG, CONNECTOR 4P
* CN801	1-566-859-11	SOCKET, CONNECTOR 15P

MAIN POWER AMP AC SELECT

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D401	8-719-000-54	DIODE UZL-6L3	
D502	8-719-987-63	DIODE 1N4148M	
D701	8-719-987-63	DIODE 1N4148M	
D702	8-719-987-63	DIODE 1N4148M	
D703	8-719-987-63	DIODE 1N4148M	
D704	8-719-987-63	DIODE 1N4148M	
D705	8-719-987-63	DIODE 1N4148M	
D751	8-719-987-63	DIODE 1N4148M	
D801	8-719-302-38	DIODE RBV-602-01	
D802	8-719-001-88	DIODE UZL-15L	
D803	8-719-001-88	DIODE UZL-15L	
D804	8-719-987-63	DIODE 1N4148M	
D805	8-719-200-77	DIODE 10E2N	
D806	8-719-200-77	DIODE 10E2N	
D807	8-719-200-77	DIODE 10E2N	
D808	8-719-200-77	DIODE 10E2N	
D809	8-719-987-63	DIODE 1N4148M	
D810	8-719-987-63	DIODE 1N4148M	
D811	8-719-987-63	DIODE 1N4148M	
D812	8-719-200-77	DIODE 10E2N	
D813	8-719-200-77	DIODE 10E2N	
D814	8-719-934-22	DIODE HZS30-2L	
D815	8-719-014-75	DIODE UZP-6.2B	
D816	8-719-200-02	DIODE 10E2	
D818	8-719-001-88	DIODE UZL-15L	
D819	8-719-001-88	DIODE UZL-15L	
		< FUSE >	
⚠ F1	1-532-259-00	FUSE T1.6AL	
⚠ F2	1-532-259-00	FUSE T1.6AL	
⚠ F801	1-532-203-00	FUSE T2.0A 250V	
⚠ F802	1-532-203-00	FUSE T2.0A 250V	
		< IC >	
IC301	8-759-000-49	IC MC14066BCP	
IC302	8-759-202-61	IC TC4094BP	
IC501	8-759-634-51	IC M5218AP	
IC502	8-759-000-49	IC MC14066BCP	
IC503	8-759-822-26	IC LC7522K	
IC504	8-759-633-78	IC M5289P	
IC505	8-759-634-51	IC M5218AP	
IC554	8-759-633-78	IC M5289P	
IC601	8-759-634-51	IC M5218AP	
IC602	8-759-043-16	IC M51134P	
IC701	8-749-922-95	IC STK4190-MK2	
IC702	8-759-111-68	IC uPC1237HA	
IC801	8-759-604-86	IC M5F7807L	

Ref. No.	Part No.	Description	Remark
IC802	8-759-604-90	IC M5F7907L	
		< IC LINK >	
⚠ ICP801	1-532-843-21	LINK, IC (PRF 2500)	
⚠ ICP802	1-532-843-21	LINK, IC (PRF 2500)	
		< JACK >	
J701	1-565-352-41	JACK, PIN 2P (SURROUND SPEAKER)	
		< COIL >	
* L701	1-420-872-00	COIL, AIR CORE	
* L751	1-420-872-00	COIL, AIR CORE	
		< TRANSISTOR >	
Q301	8-729-900-63	TRANSISTOR DTA124ES	
Q302	8-729-900-63	TRANSISTOR DTA124ES	
Q303	8-729-900-80	TRANSISTOR DTC114ES	
Q304	8-729-900-63	TRANSISTOR DTA124ES	
Q501	8-729-900-63	TRANSISTOR DTA124ES	
Q502	8-729-900-63	TRANSISTOR DTA124ES	
Q503	8-729-900-63	TRANSISTOR DTA124ES	
Q504	8-729-224-62	TRANSISTOR 2SK246-GR	
Q505	8-729-900-80	TRANSISTOR DTC114ES	
Q554	8-729-224-62	TRANSISTOR 2SK246-GR	
Q607	8-729-224-62	TRANSISTOR 2SK246-GR	
Q701	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q702	8-729-900-63	TRANSISTOR DTA124ES	
Q751	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q801	8-729-141-83	TRANSISTOR 2SB1094-LK	
		< RESISTOR >	
R301	1-249-417-11	CARBON 1K 5% 1/4W	
R302	1-249-417-11	CARBON 1K 5% 1/4W	
R303	1-249-413-11	CARBON 470 5% 1/4W	
R304	1-249-405-11	CARBON 100 5% 1/4W	
R305	1-249-433-11	CARBON 22K 5% 1/4W	
R306	1-249-433-11	CARBON 22K 5% 1/4W	
R307	1-249-429-11	CARBON 10K 5% 1/4W	
R308	1-249-429-11	CARBON 10K 5% 1/4W	
R310	1-249-413-11	CARBON 470 5% 1/4W	
R311	1-249-413-11	CARBON 470 5% 1/4W	
R312	1-249-425-11	CARBON 4.7K 5% 1/4W	
R313	1-249-417-11	CARBON 1K 5% 1/4W	
R351	1-249-417-11	CARBON 1K 5% 1/4W	
R352	1-249-417-11	CARBON 1K 5% 1/4W	
R353	1-249-413-11	CARBON 470 5% 1/4W	
R354	1-249-405-11	CARBON 100 5% 1/4W	
R501	1-247-897-11	CARBON 560K 5% 1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

MAIN POWER AMP AC SELECT

Ref. No.	Part No.	Description				Remark
R502	1-249-437-11	CARBON	47K	5%	1/4W	
R503	1-247-897-11	CARBON	560K	5%	1/4W	
R504	1-249-435-11	CARBON	33K	5%	1/4W	
R505	1-249-432-11	CARBON	18K	5%	1/4W	
R506	1-249-429-11	CARBON	10K	5%	1/4W	
R507	1-247-887-00	CARBON	220K	5%	1/4W	
R508	1-249-427-11	CARBON	6.8K	5%	1/4W	
R509	1-249-427-11	CARBON	6.8K	5%	1/4W	
R510	1-247-903-00	CARBON	1M	5%	1/4W	
R511	1-247-903-00	CARBON	1M	5%	1/4W	
R512	1-247-903-00	CARBON	1M	5%	1/4W	
R513	1-247-903-00	CARBON	1M	5%	1/4W	
R514	1-247-903-00	CARBON	1M	5%	1/4W	
R515	1-247-903-00	CARBON	1M	5%	1/4W	
R516	1-247-903-00	CARBON	1M	5%	1/4W	
R517	1-249-408-11	CARBON	180	5%	1/4W	
R518	1-249-417-11	CARBON	1K	5%	1/4W	
R519	1-249-429-11	CARBON	10K	5%	1/4W	
R520	1-249-435-11	CARBON	33K	5%	1/4W	
R521	1-249-433-11	CARBON	22K	5%	1/4W	
R522	1-249-433-11	CARBON	22K	5%	1/4W	
R523	1-249-433-11	CARBON	22K	5%	1/4W	
R525	1-249-429-11	CARBON	10K	5%	1/4W	
R529	1-249-429-11	CARBON	10K	5%	1/4W	
R530	1-249-413-11	CARBON	470	5%	1/4W	
R531	1-249-429-11	CARBON	10K	5%	1/4W	
R532	1-249-429-11	CARBON	10K	5%	1/4W	
R533	1-249-429-11	CARBON	10K	5%	1/4W	
R534	1-249-427-11	CARBON	6.8K	5%	1/4W	
R535	1-247-895-00	CARBON	470K	5%	1/4W	
R537	1-249-441-11	CARBON	100K	5%	1/4W	
R551	1-247-897-11	CARBON	560K	5%	1/4W	
R552	1-249-437-11	CARBON	47K	5%	1/4W	
R553	1-247-897-11	CARBON	560K	5%	1/4W	
R556	1-249-429-11	CARBON	10K	5%	1/4W	
R557	1-247-887-00	CARBON	220K	5%	1/4W	
R558	1-249-427-11	CARBON	6.8K	5%	1/4W	
R559	1-249-427-11	CARBON	6.8K	5%	1/4W	
R560	1-247-903-00	CARBON	1M	5%	1/4W	
R561	1-247-903-00	CARBON	1M	5%	1/4W	
R562	1-247-903-00	CARBON	1M	5%	1/4W	
R563	1-247-903-00	CARBON	1M	5%	1/4W	
R564	1-247-903-00	CARBON	1M	5%	1/4W	
R565	1-247-903-00	CARBON	1M	5%	1/4W	
R566	1-247-903-00	CARBON	1M	5%	1/4W	
R569	1-249-429-11	CARBON	10K	5%	1/4W	
R570	1-249-435-11	CARBON	33K	5%	1/4W	
R575	1-249-429-11	CARBON	10K	5%	1/4W	
R584	1-249-427-11	CARBON	6.8K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R585	1-247-895-00	CARBON	470K	5%	1/4W	
R601	1-249-429-11	CARBON	10K	5%	1/4W	
R602	1-249-438-11	CARBON	56K	5%	1/4W	
R603	1-247-848-11	CARBON	5.1K	5%	1/4W	
R604	1-249-429-11	CARBON	10K	5%	1/4W	
R606	1-249-429-11	CARBON	10K	5%	1/4W	
R607	1-249-417-11	CARBON	1K	5%	1/4W	
R608	1-249-438-11	CARBON	56K	5%	1/4W	
R609	1-249-441-11	CARBON	100K	5%	1/4W	
R610	1-247-898-11	CARBON	620K	5%	1/4W	
R611	1-247-887-00	CARBON	220K	5%	1/4W	
R612	1-247-887-00	CARBON	220K	5%	1/4W	
R613	1-247-887-00	CARBON	220K	5%	1/4W	
R614	1-249-435-11	CARBON	33K	5%	1/4W	
R641	1-249-429-11	CARBON	10K	5%	1/4W	
R643	1-249-441-11	CARBON	100K	5%	1/4W	
R644	1-247-887-00	CARBON	220K	5%	1/4W	
R651	1-249-429-11	CARBON	10K	5%	1/4W	
R701	1-249-417-11	CARBON	1K	5%	1/4W	
R702	1-249-438-11	CARBON	56K	5%	1/4W	
R703	1-249-412-11	CARBON	390	5%	1/4W	
R704	1-249-438-11	CARBON	56K	5%	1/4W	
⚠ R705	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠ R706	1-212-881-11	FUSIBLE	100	5%	1/4W	F
R707	1-249-417-11	CARBON	1K	5%	1/4W	
R708	1-249-430-11	CARBON	12K	5%	1/4W	
R709	1-249-441-11	CARBON	100K	5%	1/4W	
⚠ R710	1-217-156-00	RES, METAL PLATE	0.22		5W	F
R711	1-247-727-11	CARBON	10	5%	1/2W	
R712	1-247-727-11	CARBON	10	5%	1/2W	
R713	1-249-438-11	CARBON	56K	5%	1/4W	
R714	1-249-429-11	CARBON	10K	5%	1/4W	
R715	1-249-441-11	CARBON	100K	5%	1/4W	
R716	1-249-417-11	CARBON	1K	5%	1/4W	
R718	1-249-437-11	CARBON	47K	5%	1/4W	
R719	1-249-487-11	CARBON	15K	5%	1/2W	
⚠ R720	1-216-457-00	METAL OXIDE	1.2K	5%	2W	F
R722	1-247-903-00	CARBON	1M	5%	1/4W	
R723	1-249-433-11	CARBON	22K	5%	1/4W	
R724	1-249-428-11	CARBON	8.2K	5%	1/4W	
R751	1-249-417-11	CARBON	1K	5%	1/4W	
R752	1-249-438-11	CARBON	56K	5%	1/4W	
R753	1-249-412-11	CARBON	390	5%	1/4W	
R754	1-249-438-11	CARBON	56K	5%	1/4W	
R757	1-249-417-11	CARBON	1K	5%	1/4W	
R758	1-249-430-11	CARBON	12K	5%	1/4W	
R759	1-249-441-11	CARBON	100K	5%	1/4W	
⚠ R760	1-217-156-00	RES, METAL PLATE	0.22		5W	F
R761	1-247-727-11	CARBON	10	5%	1/2W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

MAIN POWER AMP AC SELECT MIC PANEL

Ref. No.	Part No.	Description				Remark
R762	1-247-727-11	CARBON	10	5%	1/2W	
R763	1-249-437-11	CARBON	47K	5%	1/4W	
R773	1-249-433-11	CARBON	22K	5%	1/4W	
⚠R801	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
⚠R802	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
R803	1-249-428-11	CARBON	8.2K	5%	1/4W	
R804	1-249-428-11	CARBON	8.2K	5%	1/4W	
R805	1-247-761-11	CARBON	5.6K	5%	1/2W	
R806	1-249-421-11	CARBON	2.2K	5%	1/4W	
		< RELAY >				
RY701	1-515-765-11	RELAY				
		< SWITCH >				
⚠S1	1-554-920-51	SWITCH, PUSH (AC POWER) (1 KEY)				
		< TERMINAL >				
TM701	1-537-240-11	TERMINAL BOARD (CHECKER PIN)				
		< VOLTAGE SELECTOR >				
⚠VS1	1-572-009-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR)				
***						
*	1-643-545-11	MIC BOARD *********				
		< CAPACITOR >				
C401	1-106-343-00	MYLAR	1000PF	5%	200V	
C402	1-136-167-00	FILM	0.15uF	5%	50V	
C403	1-162-219-31	CERAMIC	68PF	5%	50V	
C404	1-162-286-31	CERAMIC	220PF	10%	50V	
C405	1-126-163-11	ELECT	4.7uF	20%	50V	
C406	1-126-163-11	ELECT	4.7uF	20%	50V	
C407	1-162-286-31	CERAMIC	220PF	10%	50V	
C408	1-126-163-11	ELECT	4.7uF	20%	50V	
C409	1-124-034-51	ELECT	33uF	20%	16V	
C410	1-124-034-51	ELECT	33uF	20%	16V	
		< CONNECTOR >				
* CN401	1-564-509-11	PLUG, CONNECTOR 6P				
		< IC >				
IC401	8-759-636-73	IC M5218AL-22				
		< JACK >				
J401	1-507-854-00	JACK, PHONE (MIC)				

Ref. No.	Part No.	Description				Remark
		< RESISTOR >				
R401	1-249-441-11	CARBON	100K	5%	1/4W	
R402	1-249-429-11	CARBON	10K	5%	1/4W	
R403	1-249-417-11	CARBON	1K	5%	1/4W	
R404	1-249-440-11	CARBON	82K	5%	1/4W	
R405	1-249-429-11	CARBON	10K	5%	1/4W	
R406	1-249-427-11	CARBON	6.8K	5%	1/4W	
R407	1-249-440-11	CARBON	82K	5%	1/4W	
R408	1-249-409-11	CARBON	220	5%	1/4W	
R409	1-249-429-11	CARBON	10K	5%	1/4W	
R410	1-249-405-11	CARBON	100	5%	1/4W	
R411	1-249-405-11	CARBON	100	5%	1/4W	
R412	1-249-405-11	CARBON	100	5%	1/4W	
R413	1-249-405-11	CARBON	100	5%	1/4W	
		< VARIABLE RESISTOR >				
RV401	1-241-317-11	RES, VAR, CARBON 50K (MIC LEVEL)				
***						
*	A-4347-262-A	PANEL BOARD, COMPLETE ********************				
*	4-934-853-01	CUSHION				
*	4-950-648-01	HOLDER (FU), LED				
*	4-950-649-01	HOLDER, FL TUBE				
		< CAPACITOR >				
C623	1-126-059-11	ELECT	10uF	20%	50V	
C624	1-126-059-11	ELECT	10uF	20%	50V	
C625	1-124-034-51	ELECT	33uF	20%	16V	
C626	1-126-059-11	ELECT	10uF	20%	50V	
C627	1-126-300-11	ELECT	0.47uF	20%	50V	
C631	1-162-207-31	CERAMIC	22PF	5%	50V	
C673	1-126-059-11	ELECT	10uF	20%	50V	
C674	1-126-059-11	ELECT	10uF	20%	50V	
C675	1-124-034-51	ELECT	33uF	20%	16V	
C676	1-126-059-11	ELECT	10uF	20%	50V	
C681	1-162-207-31	CERAMIC	22PF	5%	50V	
C901	1-124-473-11	ELECT	1000uF	20%	10V	
C902	1-125-486-11	DOUBLE LAYERS	0.22F		5.5V	
C903	1-124-994-11	ELECT	100uF	20%	10V	
C904	1-136-153-00	FILM	0.01uF	5%	50V	
C905	1-136-153-00	FILM	0.01uF	5%	50V	
C906	1-136-153-00	FILM	0.01uF	5%	50V	
C907	1-136-159-00	FILM	0.033uF	5%	50V	
C908	1-164-159-11	CERAMIC	0.1uF		50V	
C909	1-164-159-11	CERAMIC	0.1uF		50V	
C910	1-164-070-11	CERAMIC	100PF	5%	50V	
C911	1-136-165-00	FILM	0.1uF	5%	50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

PANEL

Ref. No.	Part No.	Description				Remark
C912	1-136-165-00	FILM	0.1uF	5%	50V	
C913	1-136-165-00	FILM	0.1uF	5%	50V	
C914	1-126-059-11	ELECT	10uF	20%	50V	
C915	1-136-153-00	FILM	0.01uF	5%	50V	
C916	1-164-081-11	CERAMIC	470PF	10%	50V	
C917	1-164-081-11	CERAMIC	470PF	10%	50V	
C918	1-164-159-11	CERAMIC	0.1uF		50V	
C919	1-164-159-11	CERAMIC	0.1uF		50V	
C920	1-164-159-11	CERAMIC	0.1uF		50V	
C921	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C922	1-164-159-11	CERAMIC	0.1uF		50V	
C923	1-126-564-91	ELECT	10uF	20%	16V	
C924	1-164-159-11	CERAMIC	0.1uF		50V	
C925	1-126-564-91	ELECT	10uF	20%	16V	
C926	1-126-564-91	ELECT	10uF	20%	16V	
C927	1-161-374-11	CERAMIC	0.0015uF	20%	50V	
C928	1-164-081-11	CERAMIC	470PF	10%	50V	
C929	1-164-081-11	CERAMIC	470PF	10%	50V	
C930	1-164-081-11	CERAMIC	470PF	10%	50V	
C931	1-164-081-11	CERAMIC	470PF	10%	50V	
C932	1-164-081-11	CERAMIC	470PF	10%	50V	
C933	1-126-564-91	ELECT	10uF	20%	16V	
C934	1-164-159-11	CERAMIC	0.1uF		50V	
C936	1-164-159-11	CERAMIC	0.1uF		50V	
C937	1-126-162-11	ELECT	3.3uF	20%	50V	
C938	1-126-101-11	ELECT	100uF	20%	16V	

< VIBRATOR >

Ref. No.	Part No.	Description
CF901	1-577-101-11	VIBRATOR, CERAMIC

< CONNECTOR >

Ref. No.	Part No.	Description
* CN603	1-564-508-11	PLUG, CONNECTOR 5P
* CN604	1-564-507-11	PLUG, CONNECTOR 4P
* CN606	1-568-322-11	PLUG, CONNECTOR 10P
* CN901	1-568-834-11	SOCKET, CONNECTOR 15P

< CONPOSITION CIRCUIT BLOCK >

Ref. No.	Part No.	Description
CP901	1-232-882-11	COMPOSITION CIRCUIT BLOCK
CP902	1-232-882-11	COMPOSITION CIRCUIT BLOCK
CP903	1-232-882-11	COMPOSITION CIRCUIT BLOCK

< DIODE >

Ref. No.	Part No.	Description		Remark
D601	8-719-987-63	DIODE	1N4148M	
D901	8-719-000-81	DIODE	UZL-7L3	
D902	8-719-987-63	DIODE	1N4148M	
D903	8-719-200-02	DIODE	10E2	
D904	8-719-200-02	DIODE	10E2	
D905	8-719-987-63	DIODE	1N4148M	
D906	8-719-987-63	DIODE	1N4148M	
D907	8-719-987-63	DIODE	1N4148M	
D908	8-719-987-63	DIODE	1N4148M	
D909	8-719-987-63	DIODE	1N4148M	
D911	8-719-987-63	DIODE	1N4148M	
D912	8-719-987-63	DIODE	1N4148M	
D915	8-719-010-28	DIODE	UZ-4.3BSA	
D916	8-719-313-69	LED	SEL3210S-CD (KARAOKE PON)	
D917	8-719-987-63	DIODE	1N4148M	
D918	8-719-313-69	LED	SEL3210S-CD (PROGRAM FUNCTION)	
D919	8-719-313-69	LED	SEL3210S-CD (EFECT)	
D921	8-719-313-69	LED	SEL3210S-CD (BASS SYNTHE)	
D923	8-719-313-69	LED	SEL3210S-CD (CD DIRECT)	
D924	8-719-987-63	DIODE	1N4148M	
D925	8-719-301-44	LED	SEL2410E-D (VIDEO 1)	
D926	8-719-987-63	DIODE	1N4148M	
D927	8-719-301-44	LED	SEL2410E-D (VISUAL INPUT)	
D928	8-719-987-63	DIODE	1N4148M	
D929	8-719-000-60	DIODE	UZL-6M2	
D930	8-719-987-63	DIODE	1N4148M	
D931	8-719-987-63	DIODE	1N4148M	
D932	8-719-987-63	DIODE	1N4148M	
D933	8-719-987-63	DIODE	1N4148M	
D934	8-719-987-63	DIODE	1N4148M	
D935	8-719-987-63	DIODE	1N4148M	
D936	8-719-987-63	DIODE	1N4148M	
D937	8-719-987-63	DIODE	1N4148M	
D938	8-719-987-63	DIODE	1N4148M	
D939	8-719-987-63	DIODE	1N4148M	
D940	8-719-987-63	DIODE	1N4148M	
D941	8-719-301-39	LED	SEL2210S-D (PHONO)	
D942	8-719-301-39	LED	SEL2210S-D (TUNER)	
D943	8-719-301-39	LED	SEL2210S-D (CD)	
D944	8-719-301-39	LED	SEL2210S-D (TAPE)	
D945	8-719-301-39	LED	SEL2210S-D (VIDEO 2)	
D946	8-719-313-69	LED	SEL3210S-CD (EQ)	
D947	8-719-313-69	LED	SEL3210S-CD (PERSONAL FILE 1-5)	
D948	8-719-313-69	LED	SEL3210S-CD (SELECT 10)	
D949	8-719-313-69	LED	SEL3210S-CD (MEMORY)	
D950	8-719-301-39	LED	SEL2210S-D (DAT)	

< FILTER >

Ref. No.	Part No.	Description
FL901	1-519-737-21	INDICATOR TUBE, FLUORESCENT

< IC >

Ref. No.	Part No.	Description	
IC603	8-759-634-50	IC	M5218AL
IC604	8-759-801-01	IC	LC4966
IC901	8-759-060-25	IC	uPD75208CW-B31
IC902	8-759-635-63	IC	M51943BSL

PANEL

Ref. No.	Part No.	Description	Remark
IC903	8-759-987-16	IC LM393P	
IC905	8-759-991-11	IC XR1091DCP	
IC906	8-759-822-27	IC LC7565K	
		< COIL >	
L901	1-408-080-00	INDUCTOR 100uH	
L902	1-408-121-00	INDUCTOR 22uH	
L903	1-408-121-00	INDUCTOR 22uH	
		< TRANSISTOR >	
Q601	8-729-224-62	TRANSISTOR 2SK246-GR	
Q602	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q603	8-729-900-63	TRANSISTOR DTA124ES	
Q604	8-729-900-63	TRANSISTOR DTA124ES	
Q605	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q606	8-729-900-80	TRANSISTOR DTC114ES	
Q651	8-729-224-62	TRANSISTOR 2SK246-GR	
Q652	8-729-141-26	TRANSISTOR 2SC3622A-LK	
Q901	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q902	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q903	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q904	8-729-900-80	TRANSISTOR DTC114ES	
Q905	8-729-900-80	TRANSISTOR DTC114ES	
Q906	8-729-900-80	TRANSISTOR DTC114ES	
Q907	8-729-900-80	TRANSISTOR DTC114ES	
Q908	8-729-900-80	TRANSISTOR DTC114ES	
Q909	8-729-900-80	TRANSISTOR DTC114ES	
Q910	8-729-900-80	TRANSISTOR DTC114ES	
Q911	8-729-900-80	TRANSISTOR DTC114ES	
Q912	8-729-900-80	TRANSISTOR DTC114ES	
Q913	8-729-900-80	TRANSISTOR DTC114ES	
Q914	8-729-900-80	TRANSISTOR DTC114ES	
Q915	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q916	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q917	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q918	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q919	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q920	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q921	8-729-900-80	TRANSISTOR DTC114ES	
Q922	8-729-900-80	TRANSISTOR DTC114ES	
Q923	8-729-900-80	TRANSISTOR DTC114ES	
Q924	8-729-900-63	TRANSISTOR DTA124ES	
		< RESISTOR >	
R615	1-247-887-00	CARBON 220K 5% 1/4W	
R616	1-249-425-11	CARBON 4.7K 5% 1/4W	
R617	1-247-895-00	CARBON 470K 5% 1/4W	
R618	1-249-428-11	CARBON 8.2K 5% 1/4W	
R619	1-249-425-11	CARBON 4.7K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R620	1-249-405-11	CARBON 100 5% 1/4W	
R621	1-249-417-11	CARBON 1K 5% 1/4W	
R622	1-249-429-11	CARBON 10K 5% 1/4W	
R623	1-249-441-11	CARBON 100K 5% 1/4W	
R624	1-249-435-11	CARBON 33K 5% 1/4W	
R625	1-249-426-11	CARBON 5.6K 5% 1/4W	
R626	1-249-428-11	CARBON 8.2K 5% 1/4W	
R627	1-249-433-11	CARBON 22K 5% 1/4W	
R628	1-249-441-11	CARBON 100K 5% 1/4W	
R640	1-249-433-11	CARBON 22K 5% 1/4W	
R642	1-249-425-11	CARBON 4.7K 5% 1/4W	
R650	1-249-417-11	CARBON 1K 5% 1/4W	
R665	1-247-887-00	CARBON 220K 5% 1/4W	
R666	1-249-425-11	CARBON 4.7K 5% 1/4W	
R667	1-247-895-00	CARBON 470K 5% 1/4W	
R668	1-249-428-11	CARBON 8.2K 5% 1/4W	
R669	1-249-425-11	CARBON 4.7K 5% 1/4W	
R670	1-249-405-11	CARBON 100 5% 1/4W	
R671	1-249-417-11	CARBON 1K 5% 1/4W	
R674	1-249-435-11	CARBON 33K 5% 1/4W	
R675	1-249-426-11	CARBON 5.6K 5% 1/4W	
R676	1-249-428-11	CARBON 8.2K 5% 1/4W	
R692	1-249-425-11	CARBON 4.7K 5% 1/4W	
R901	1-249-429-11	CARBON 10K 5% 1/4W	
R902	1-249-433-11	CARBON 22K 5% 1/4W	
R903	1-249-433-11	CARBON 22K 5% 1/4W	
R904	1-249-433-11	CARBON 22K 5% 1/4W	
R905	1-249-441-11	CARBON 100K 5% 1/4W	
R906	1-249-417-11	CARBON 1K 5% 1/4W	
R907	1-249-441-11	CARBON 100K 5% 1/4W	
R908	1-249-428-11	CARBON 8.2K 5% 1/4W	
R909	1-249-428-11	CARBON 8.2K 5% 1/4W	
R910	1-249-417-11	CARBON 1K 5% 1/4W	
R911	1-249-425-11	CARBON 4.7K 5% 1/4W	
R912	1-249-425-11	CARBON 4.7K 5% 1/4W	
R913	1-249-425-11	CARBON 4.7K 5% 1/4W	
R915	1-249-429-11	CARBON 10K 5% 1/4W	
R916	1-249-429-11	CARBON 10K 5% 1/4W	
R917	1-249-429-11	CARBON 10K 5% 1/4W	
R918	1-249-433-11	CARBON 22K 5% 1/4W	
R919	1-249-441-11	CARBON 100K 5% 1/4W	
R920	1-249-441-11	CARBON 100K 5% 1/4W	
R921	1-249-441-11	CARBON 100K 5% 1/4W	
R922	1-249-441-11	CARBON 100K 5% 1/4W	
R923	1-249-417-11	CARBON 1K 5% 1/4W	
R924	1-249-417-11	CARBON 1K 5% 1/4W	
R925	1-249-417-11	CARBON 1K 5% 1/4W	
R926	1-249-417-11	CARBON 1K 5% 1/4W	
R927	1-249-417-11	CARBON 1K 5% 1/4W	

Ref. No.	Part No.	Description				Remark
R928	1-249-417-11	CARBON	1K	5%	1/4W	
R929	1-249-417-11	CARBON	1K	5%	1/4W	
R930	1-249-441-11	CARBON	100K	5%	1/4W	
R931	1-249-441-11	CARBON	100K	5%	1/4W	
R932	1-249-441-11	CARBON	100K	5%	1/4W	
R933	1-249-417-11	CARBON	1K	5%	1/4W	
R934	1-249-417-11	CARBON	1K	5%	1/4W	
R935	1-249-417-11	CARBON	1K	5%	1/4W	
R936	1-249-417-11	CARBON	1K	5%	1/4W	
R937	1-249-433-11	CARBON	22K	5%	1/4W	
R938	1-249-433-11	CARBON	22K	5%	1/4W	
R939	1-249-405-11	CARBON	100	5%	1/4W	
R940	1-249-439-11	CARBON	68K	5%	1/4W	
R941	1-249-441-11	CARBON	100K	5%	1/4W	
R942	1-249-441-11	CARBON	100K	5%	1/4W	
R943	1-249-441-11	CARBON	100K	5%	1/4W	
R944	1-249-412-11	CARBON	390	5%	1/4W	
R945	1-249-413-11	CARBON	470	5%	1/4W	
R946	1-249-411-11	CARBON	330	5%	1/4W	
R947	1-249-411-11	CARBON	330	5%	1/4W	
R948	1-249-411-11	CARBON	330	5%	1/4W	
R949	1-249-413-11	CARBON	470	5%	1/4W	
R950	1-249-410-11	CARBON	270	5%	1/4W	
R951	1-249-411-11	CARBON	330	5%	1/4W	
R952	1-249-393-11	CARBON	10	5%	1/4W	
R953	1-249-419-11	CARBON	1.5K	5%	1/4W	
R954	1-249-441-11	CARBON	100K	5%	1/4W	
R955	1-249-409-11	CARBON	220	5%	1/4W	
R956	1-247-891-00	CARBON	330K	5%	1/4W	
R957	1-249-432-11	CARBON	18K	5%	1/4W	
R958	1-247-891-00	CARBON	330K	5%	1/4W	
R961	1-249-441-11	CARBON	100K	5%	1/4W	
R962	1-249-441-11	CARBON	100K	5%	1/4W	
R963	1-249-441-11	CARBON	100K	5%	1/4W	
R964	1-249-441-11	CARBON	100K	5%	1/4W	
R965	1-249-441-11	CARBON	100K	5%	1/4W	
R966	1-249-396-11	CARBON	18	5%	1/6W	
R967	1-249-396-11	CARBON	18	5%	1/6W	
R968	1-249-396-11	CARBON	18	5%	1/6W	
R969	1-249-396-11	CARBON	18	5%	1/6W	
R970	1-249-396-11	CARBON	18	5%	1/6W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV601	1-241-879-11	RES, VAR, CARBON 20K (BASS SYNTHESIZER LEVEL)	
RV602	1-238-459-11	RES, VAR, CARBON 100K (BALANCE)	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S901	1-554-303-21	SWITCH, TACTILE (PROGRAM FUNCTION)	
S902	1-554-303-21	SWITCH, TACTILE (EQ)	
S903	1-554-303-21	SWITCH, TACTILE (PHONO)	
S904	1-554-303-21	SWITCH, TACTILE (▼)	
S905	1-554-303-21	SWITCH, TACTILE (▶)	
S906	1-554-303-21	SWITCH, TACTILE (PERSONAL FILE 1-5)	
S907	1-554-303-21	SWITCH, TACTILE (TUNER)	
S908	1-554-303-21	SWITCH, TACTILE (SURROUND LEVEL)	
S909	1-554-303-21	SWITCH, TACTILE (CD DIRECT)	
S910	1-554-303-21	SWITCH, TACTILE (SELECT 10)	
S911	1-554-303-21	SWITCH, TACTILE (CD)	
S912	1-554-303-21	SWITCH, TACTILE (SURROUND MODE)	
S913	1-554-303-21	SWITCH, TACTILE (TAPE)	
S914	1-554-303-21	SWITCH, TACTILE (◀)	
S915	1-554-303-21	SWITCH, TACTILE (REVERSE)	
S916	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S917	1-554-303-21	SWITCH, TACTILE (FLAT)	
S918	1-554-303-21	SWITCH, TACTILE (▲)	
S919	1-554-303-21	SWITCH, TACTILE (VIDEO 2)	
S920	1-554-303-21	SWITCH, TACTILE (VIDEO 1)	
S921	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S922	1-554-303-21	SWITCH, TACTILE (EFECT)	
S923	1-554-303-21	SWITCH, TACTILE (BASS SYNTHE)	
S924	1-554-303-21	SWITCH, TACTILE (KARAOKE PON)	

****

* A-4347-264-A PIN JACK BOARD, COMPLETE

****

< CAPACITOR >

Ref. No.	Part No.	Description				Remark
C102	1-126-161-11	ELECT	2.2uF	20%	50V	
C103	1-162-282-31	CERAMIC	100PF	10%	50V	
C104	1-162-219-31	CERAMIC	68PF	5%	50V	
C105	1-126-022-11	ELECT	47uF	20%	10V	
C106	1-130-480-00	MYLAR	0.0056uF	5%	50V	
C107	1-106-347-00	MYLAR	1500PF	5%	200V	
C108	1-124-464-11	ELECT	0.22uF	20%	50V	
C109	1-124-034-51	ELECT	33uF	20%	16V	
C111	1-126-233-11	ELECT	22uF	20%	50V	
C113	1-126-233-11	ELECT	22uF	20%	50V	
C116	1-126-233-11	ELECT	22uF	20%	50V	
C117	1-124-034-51	ELECT	33uF	20%	16V	
C118	1-124-034-51	ELECT	33uF	20%	16V	
C152	1-126-161-11	ELECT	2.2uF	20%	50V	
C153	1-162-282-31	CERAMIC	100PF	10%	50V	
C154	1-162-219-31	CERAMIC	68PF	5%	50V	
C155	1-126-022-11	ELECT	47uF	20%	10V	
C156	1-130-480-00	MYLAR	0.0056uF	5%	50V	

PIN JACK

Ref. No.	Part No.	Description			Remark
C157	1-106-347-00	MYLAR	1500PF	5%	200V
C158	1-124-464-11	ELECT	0.22uF	20%	50V
C159	1-124-034-51	ELECT	33uF	20%	16V
C161	1-126-233-11	ELECT	22uF	20%	50V
C163	1-126-233-11	ELECT	22uF	20%	50V
C166	1-126-233-11	ELECT	22uF	20%	50V
C167	1-124-034-51	ELECT	33uF	20%	16V
C168	1-124-034-51	ELECT	33uF	20%	16V
C201	1-126-059-11	ELECT	10uF	20%	50V
C202	1-124-471-00	ELECT	1000uF	20%	6.3V
C203	1-126-059-11	ELECT	10uF	20%	50V
C204	1-124-471-00	ELECT	1000uF	20%	6.3V
C205	1-161-379-00	CERAMIC	0.01uF	20%	25V
C206	1-124-997-11	ELECT	470uF	20%	10V
		< CONNECTOR >			
* CN101	1-568-320-11	PLUG, CONNECTOR 8P			
* CN102	1-568-320-11	PLUG, CONNECTOR 8P			
		< DIODE >			
D101	8-719-987-63	DIODE 1N4148M			
D102	8-719-987-63	DIODE 1N4148M			
D201	8-719-987-63	DIODE 1N4148M			
		< IC >			
IC101	8-759-636-73	IC M5218AL-22			
IC102	8-759-000-48	IC MC14052BCP			
IC103	8-759-000-49	IC MC14066BCP			
IC201	8-759-514-76	IC MM1031XS			
		< JACK >			
* J101	1-569-812-11	JACK, PIN 6P (PHONO/CD/VIDEO 2)			
J102	1-565-304-11	JACK, PIN 4P (VIDEO 1 IN/OUT)			
J201	1-565-934-11	JACK, PIN 2P (VIDEO 2 IN/1 OUT)			
J202	1-565-934-11	JACK, PIN 2P (VIDEO 1/DAT IN /MONITOR OUT)			
		< COIL >			
L201	1-408-080-00	INDUCTOR	100uH		
		< TRANSISTOR >			
Q101	8-729-900-63	TRANSISTOR DTA124ES			
Q201	8-729-119-77	TRANSISTOR 2SA1175-FEK			
Q202	8-729-900-63	TRANSISTOR DTA124ES			
Q203	8-729-119-77	TRANSISTOR 2SA1175-FEK			
Q204	8-729-900-80	TRANSISTOR DTC114ES			
Q205	8-729-620-05	TRANSISTOR 2SC2603-EF			
Q206	8-729-900-63	TRANSISTOR DTA124ES			

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-249-417-11	CARBON	1K	5%	1/4W
R102	1-249-441-11	CARBON	100K	5%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R104	1-249-441-11	CARBON	100K	5%	1/4W
R105	1-249-416-11	CARBON	820	5%	1/4W
R106	1-247-897-11	CARBON	560K	5%	1/4W
R107	1-249-437-11	CARBON	47K	5%	1/4W
R108	1-249-417-11	CARBON	1K	5%	1/4W
R109	1-249-441-11	CARBON	100K	5%	1/4W
R110	1-249-405-11	CARBON	100	5%	1/4W
R111	1-249-405-11	CARBON	100	5%	1/4W
R112	1-249-423-11	CARBON	3.3K	5%	1/4W
R113	1-249-429-11	CARBON	10K	5%	1/4W
R114	1-249-417-11	CARBON	1K	5%	1/4W
R115	1-247-903-00	CARBON	1M	5%	1/4W
R116	1-249-413-11	CARBON	470	5%	1/4W
R117	1-247-903-00	CARBON	1M	5%	1/4W
R118	1-249-417-11	CARBON	1K	5%	1/4W
R119	1-247-903-00	CARBON	1M	5%	1/4W
R120	1-249-405-11	CARBON	100	5%	1/4W
R121	1-249-405-11	CARBON	100	5%	1/4W
R122	1-249-417-11	CARBON	1K	5%	1/4W
R123	1-249-417-11	CARBON	1K	5%	1/4W
R124	1-249-417-11	CARBON	1K	5%	1/4W
R125	1-249-417-11	CARBON	1K	5%	1/4W
R126	1-249-433-11	CARBON	22K	5%	1/4W
R151	1-249-417-11	CARBON	1K	5%	1/4W
R152	1-249-441-11	CARBON	100K	5%	1/4W
R153	1-249-417-11	CARBON	1K	5%	1/4W
R154	1-249-441-11	CARBON	100K	5%	1/4W
R155	1-249-416-11	CARBON	820	5%	1/4W
R156	1-247-897-11	CARBON	560K	5%	1/4W
R157	1-249-437-11	CARBON	47K	5%	1/4W
R158	1-249-417-11	CARBON	1K	5%	1/4W
R159	1-249-441-11	CARBON	100K	5%	1/4W
R160	1-249-405-11	CARBON	100	5%	1/4W
R161	1-249-405-11	CARBON	100	5%	1/4W
R162	1-249-423-11	CARBON	3.3K	5%	1/4W
R163	1-249-429-11	CARBON	10K	5%	1/4W
R164	1-249-417-11	CARBON	1K	5%	1/4W
R165	1-247-903-00	CARBON	1M	5%	1/4W
R166	1-249-413-11	CARBON	470	5%	1/4W
R167	1-247-903-00	CARBON	1M	5%	1/4W
R168	1-249-417-11	CARBON	1K	5%	1/4W
R169	1-247-903-00	CARBON	1M	5%	1/4W
R170	1-249-405-11	CARBON	100	5%	1/4W
R171	1-249-405-11	CARBON	100	5%	1/4W

Ref. No.	Part No.	Description	Remark
R201	1-247-804-11	CARBON 75 5% 1/4W	
R202	1-249-403-11	CARBON 68 5% 1/4W	
R203	1-249-429-11	CARBON 10K 5% 1/4W	
R204	1-247-804-11	CARBON 75 5% 1/4W	
R205	1-249-403-11	CARBON 68 5% 1/4W	
R206	1-249-429-11	CARBON 10K 5% 1/4W	
R207	1-249-408-11	CARBON 180 5% 1/4W	
R208	1-249-408-11	CARBON 180 5% 1/4W	
R209	1-249-408-11	CARBON 180 5% 1/4W	
R210	1-249-433-11	CARBON 22K 5% 1/4W	
R211	1-249-426-11	CARBON 5.6K 5% 1/4W	
R212	1-249-433-11	CARBON 22K 5% 1/4W	
R213	1-249-408-11	CARBON 180 5% 1/4W	
R214	1-249-417-11	CARBON 1K 5% 1/4W	

`***********************************************************`

* 1-643-547-11 VOL BOARD

`*********`

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C628	1-136-165-00	FILM 0.1uF 5% 50V	
C916	1-124-443-00	ELECT 100uF 20% 10V	
C917	1-124-472-11	ELECT 470uF 20% 10V	
C935	1-124-443-00	ELECT 100uF 20% 10V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN605	1-564-506-11	PLUG, CONNECTOR 3P	
CN607	1-568-321-11	SOCKET, CONNECTOR 10P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D910	8-719-010-32	DIODE UZ-4.7BSA	
D913	8-719-200-02	DIODE 10E2	
D914	8-719-200-02	DIODE 10E2	

< IC >

Ref. No.	Part No.	Description	Remark
IC904	8-759-820-62	IC LB1639	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R914	1-249-405-11	CARBON 100 5% 1/4W	

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description	Remark
RV603	1-238-708-21	RES, VAR, CARBON 10K/100K/100K (VOLUME)	

`***********************************************************`

MISCELLANEOUS

`*************`

Ref. No.	Part No.	Description	Remark
14	1-690-095-11	WIRE, FLAT TYPE (15 CORE)	
⚠ 58	1-575-651-11	CORD, POWER (EA)	
⚠ 58	1-575-656-11	CORD, POWER (E)	
⚠ 58	1-690-056-11	CORD, POWER (AUS)	
⚠ F1	1-532-259-00	FUSE (T1.6A)	
⚠ F2	1-532-259-00	FUSE (T1.6A)	
⚠ F801	1-532-203-00	FUSE (T2.0A)	
⚠ F802	1-532-203-00	FUSE (T2.0A)	
⚠ T901	1-450-871-11	TRANSFORMER, POWER	

`***********************************************************`

ACCESSORIES & PACKING MATERIALS

`******************************`

Ref. No.	Part No.	Description	Remark
	3-703-710-41	STICKER, SONY SYMBOL (12)	
	4-920-940-01	SHEET (A), PROTECTION	
*	4-934-859-01	CUSHION	

`***********************************************************`

HARDWARE LIST

Ref. No.	Part No.	Description
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-621-773-93	SCREW (PANEL 2.6 TP2)
#3	7-682-548-04	SCREW +BVTT 3X8 (S)
#4	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#5	7-682-560-04	SCREW +BVTT 4X6 (S)
#6	7-621-849-00	SCREW (BV/RING)

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Audio Group

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Published by Customer Relations and Service Group

TC-D607

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

• This set is the cassette deck section in LBT-D607/D607CD.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	TC-H1600
Tape Transport Mechanism Type	DECK A : TCM-190RA12C DECK B : TCM-190RB22C

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF With Type IV cassette (Sony METAL-ES) 30 Hz to 15 kHz (±3 dB) With Type II cassette (Sony UX-S) 40 Hz to 14 kHz (±3 dB) With Type I cassette (Sony HF-S) 40 Hz to 14 kHz (±3 dB)
Wow and flutter	±0.2% (DIN)
Weight	Approx. 3.5 kg (8 lbs 1 oz)
Dimensions	Approx. 355 x 131 x 304 mm (14 x 5¹/₄ x 12 inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

MICROFILM

STEREO CASSETTE DECK

SONY®

TABLE OF CONTENTS

Section *Title* *Page*

SECTION 1. GENERAL ········· 3

SECTION 2. DISASSEMBLY ········· 4

SECTION 3. MECHANICAL ADJUSTMENTS ········· 6

SECTION 4. ELECTRICAL ADJUSTMENTS ········· 6

SECTION 5. DIAGRAMS

- 5-1. Circuit Boards Location ········· 10
- 5-2. Semiconductor Lead Layouts ········· 11
- 5-3. Printed Wiring Boards — Main Section — ········· 12
- 5-4. Schematic Diagrams — Main Section — ········· 17
- 5-5. Printed Wiring Boards — Panel Section — ········· 21
- 5-6. Schematic Diagrams — Panel Section — ········· 23

SECTION 6. EXPLODED VIEWS

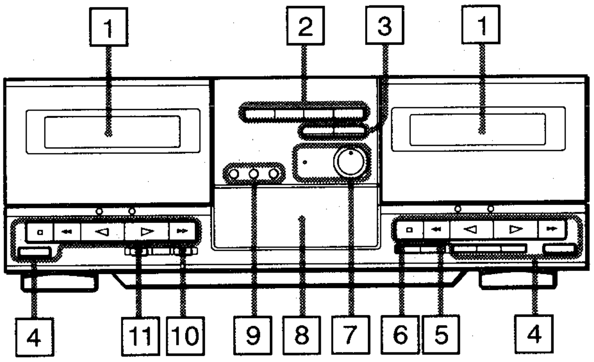
- 6-1. Overall Section ········· 25
- 6-2. Front Panel Section ········· 26
- 6-3. Mechanism-1 Section ········· 27
- 6-4. Mechanism-2 Section ········· 28

SECTION 7. ELECTRICAL PARTS LIST ········· 29

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of Controls



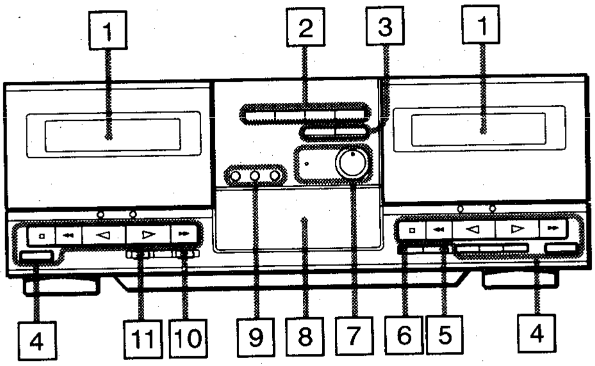
1 Cassette holders
2 AUTO CD SYNCHRO REC buttons and indicators
  C.(Cross) FADE (29)
  FADE (28)
  EDIT (31)
  TIME (31)
3 SYNCHRO DUBBING buttons (24)
4 Tape operation buttons
  ◀◀ Leftward fast winding/AMS*, ▶▶ Rightward fast winding/AMS*, ▶ Forward play, ◀ Reverse play, ■ Stop, ⏏ EJECT, ❚❚ PAUSE(deck B only), ○ REC MUTE Record muting (deck B only), ● REC Record (deck B only)
5 FADER button (22)
6 ARL (Automatic recording level) button and indicator (21)
7 REC (recording) LEVEL control and indicator (20)
8 Display window
9 COUNTER setting buttons (19)
  A/B, MEMORY and RESET button
10 DOLBY NR (noise reduction) selector (20)
11 DIRECTION MODE selector (17, 20, 24)

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of Controls



1 Cassette holders
2 AUTO CD SYNCHRO REC buttons and indicators
  C.(Cross) FADE (29)
  FADE (28)
  EDIT (31)
  TIME (31)
3 SYNCHRO DUBBING buttons (24)
4 Tape operation buttons
  ◀◀ Leftward fast winding/AMS*, ▶▶ Rightward fast winding/AMS*, ▶ Forward play, ◀ Reverse play, ■ Stop, ⏏ EJECT, ❚❚ PAUSE(deck B only), ○ REC MUTE Record muting (deck B only), ● REC Record (deck B only)
5 FADER button (22)
6 ARL (Automatic recording level) button and indicator (21)
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8 Display window
9 COUNTER setting buttons (19)
  A/B, MEMORY and RESET button
10 DOLBY NR (noise reduction) selector (20)
11 DIRECTION MODE selector (17, 20, 24)

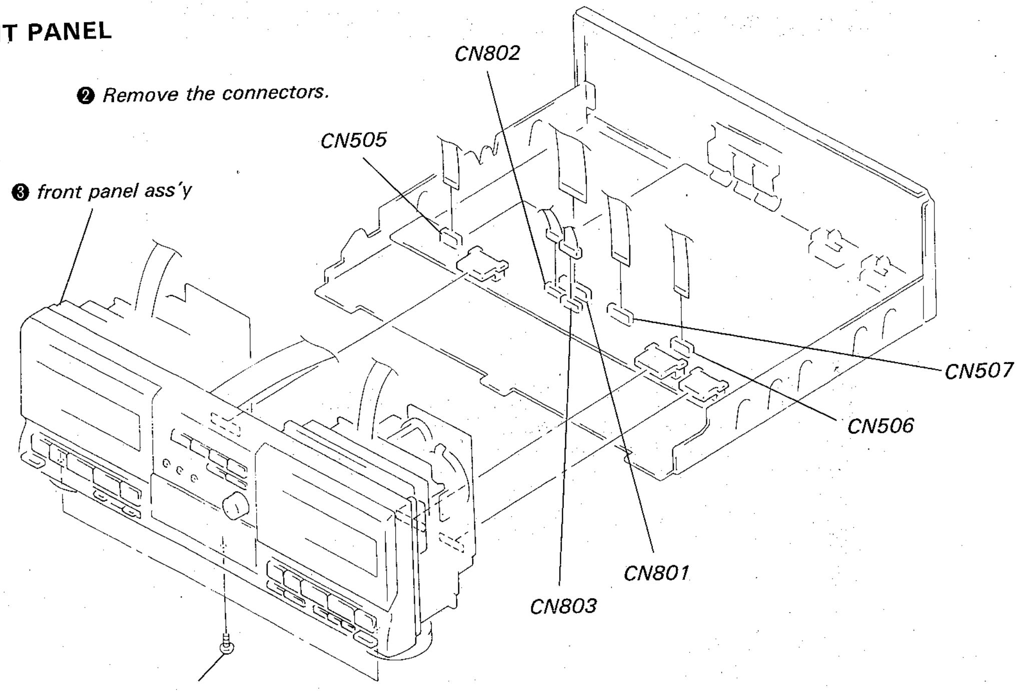
* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
DISASSEMBLY

NOTE: Follow the disassembly procedure in the numerical order given.

CASE
Unscrew the four case attachment screws M3×8 and remove the case.

FRONT PANEL



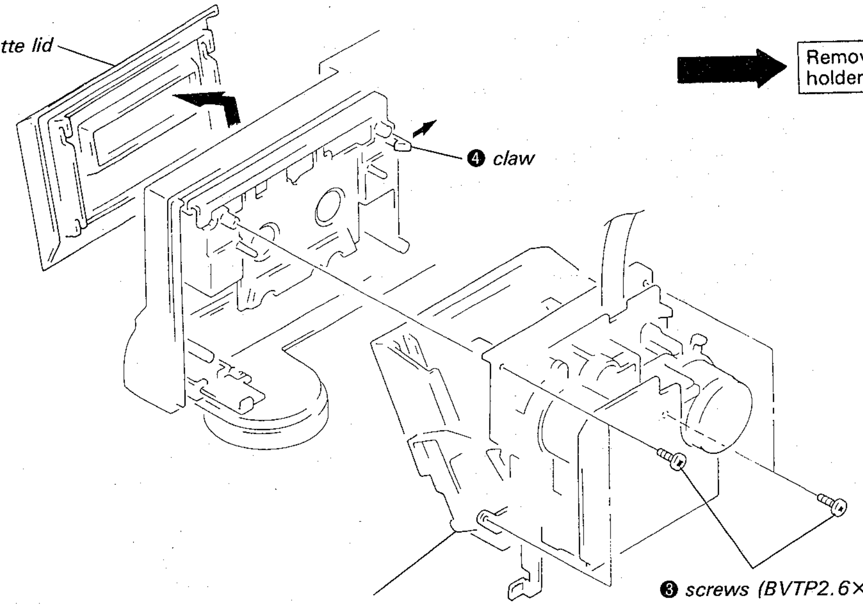
❷ *Remove the connectors.*

❸ *front panel ass'y*

❶ *screws (BVTP3×8)*

MECHANISM DECK

❶ *Press the EJECT button.*



❷ *cassette lid*

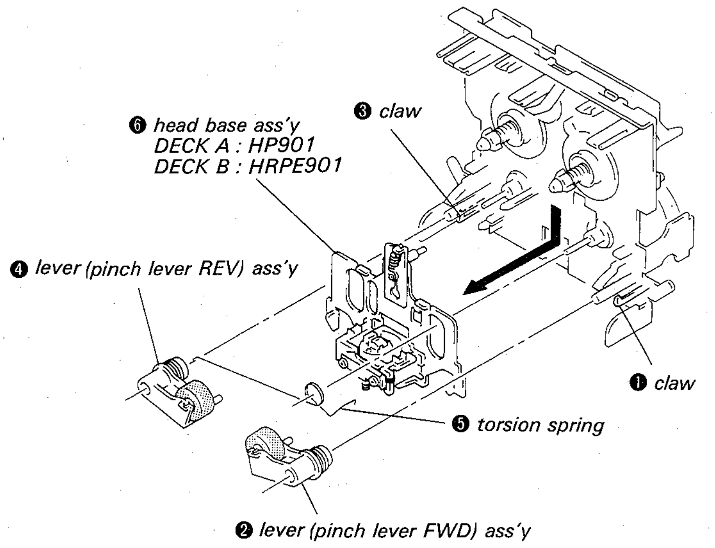
❹ *claw*

❸ *screws (BVTP2.6×8)*

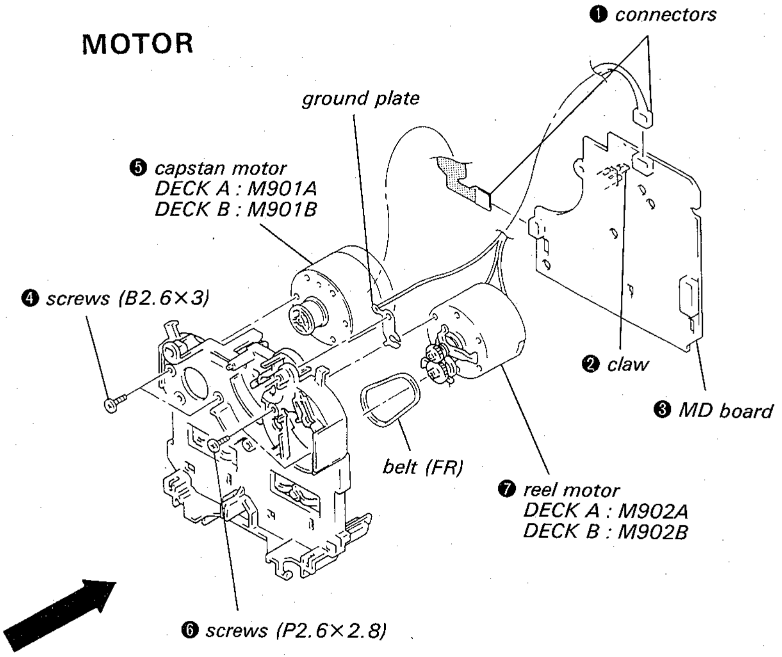
❺ *mechanism deck*

Remove the cassette holder assembly.

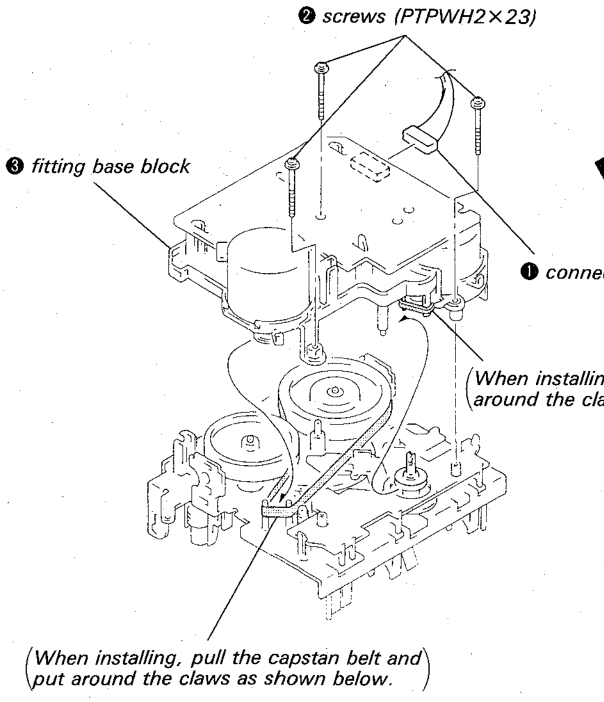
HEAD


❻ head base ass'y
DECK A : HP901
DECK B : HRPE901
❸ claw
❹ lever (pinch lever REV) ass'y
❶ claw
❺ torsion spring
❷ lever (pinch lever FWD) ass'y

MOTOR


❶ connectors
ground plate
❺ capstan motor
DECK A : M901A
DECK B : M901B
❹ screws (B2.6×3)
❷ claw
❸ MD board
belt (FR)
❼ reel motor
DECK A : M902A
DECK B : M902B
❻ screws (P2.6×2.8)

FITTING BASE BLOCK


❷ screws (PTPWH2×23)
❸ fitting base block
❶ connector

(When installing, pull the FR belt and put around the claws as shown below.)

(When installing, pull the capstan belt and put around the claws as shown below.)

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcoholmoistened swab;
   record/playback/erase head
   pinch roller rubber belts
   capstan idler
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	35 to 60g · cm (0.49 to 0.83 oz · inch)
FWD Back tension	CQ-102C	2 to 6g·cm (0.03 to 0.08 oz·inch)
REV	CQ-102RC	35 to 60g · cm (0.49 to 0.83 oz · inch)
REV Back tension	CQ-102RC	2 to 6g·cm (0.03 to 0.08 oz·inch)
FF, REW	CQ-201B	70 to 110g · cm (0.98 to 1.52 oz · inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

Note: The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording.
The adjustments should be performed for both L-CH and R-CH.

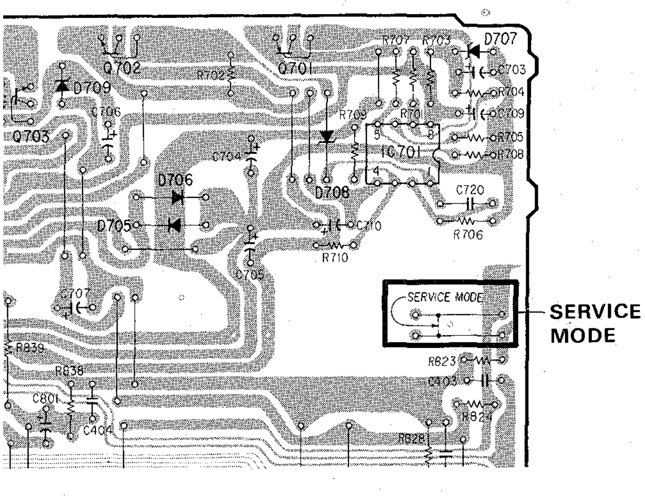
● Test Mode

The Test mode is activated by shorting Test Point Service mode (IC805 34 pin changes over to "L") with the POWER switch in OFF position, then turning on the POWER switch.

In this mode, the following functions operate:

1. Source monitor
   Line mute is cancelled during recording.
2. High speed playback
   High speed playback is executed when the HIGH SPEED (DUBBING) button is jpressed during playback. Normal speed playback is restored when the button is pressed again.
3. Record memory
   The tape counter is reset to "0" at the record start point.
   After adjustment, open the Service mode to cancel the Test mode.

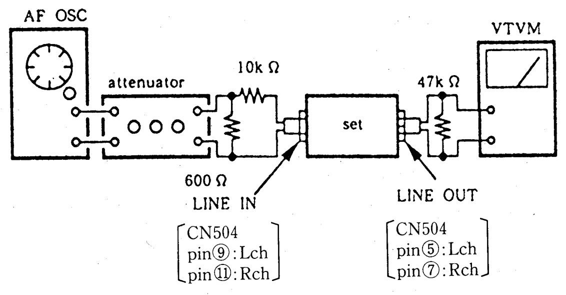
[MAIN BOARD] (CONDUCTOR SIDE)


Q702
Q701
R702
R707
R703
D707
C703
R704
C709
D709
C706
Q703
R709
R701
IC701
5
8
4
1
R705
R708
C704
D706
D708
C720
D705
C710
R706
R710
C705
C707
SERVICE MODE
SERVICE MODE
R839
R838
R823
C403
C801
C404
R824
R828

- Switches and controls should be set as follows unless otherwise specified.
  DD NR switch : OFF
  DIR MODE switch : ⇄

- Standard Record:
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

– Record Mode –


AF OSC
attenuator
10k Ω
set
47k Ω
VTVM
600 Ω
LINE IN
CN504
pin⑨:Lch
pin⑪:Rch
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

Standard Input Level

input terminal	LINE IN
source impedance	10kΩ
input level	0.25V (−10dB)

Standard Output Level

output terminal	LINE OUT
load impedance	47kΩ
output level	0.44V (−5dB)

Test tape

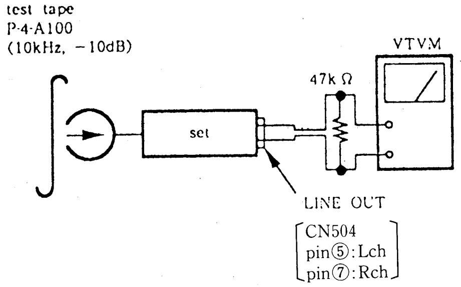
Type	Signal	Used for
P-4-A100	10kHz, −10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

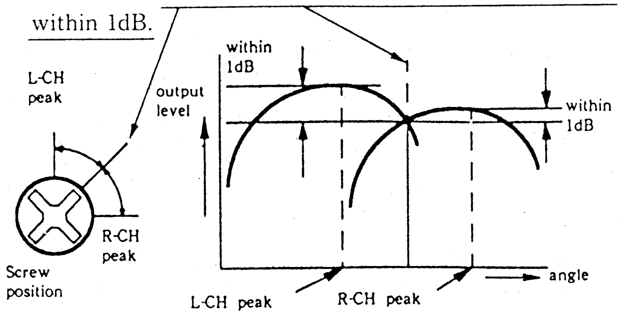
DECK A DECK B

Procedure :

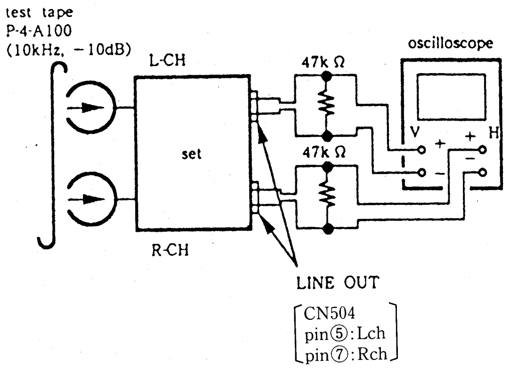
1. Mode: FWD playback

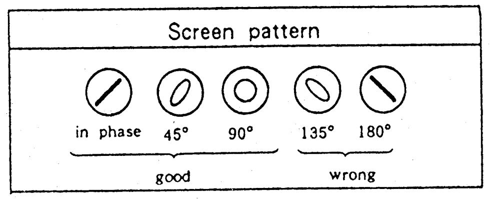

test tape
P-4-A100
(10kHz, −10dB)
set
47k Ω
VTVM
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.


L-CH
peak
output
level
within
1dB
within
1dB
R-CH
peak
Screw
position
L-CH peak
R-CH peak
angle

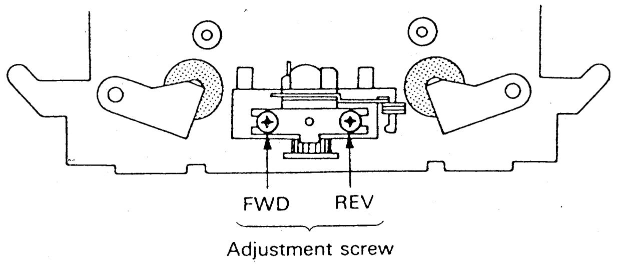
3. Phase Check
   Mode: playback


test tape
P-4-A100
(10kHz, −10dB)
L-CH
set
R-CH
47k Ω
47k Ω
oscilloscope
V
H
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Set in the REV mode and repeat the step 1-3.
5. After the adjustment, lock the screws with locking compound.

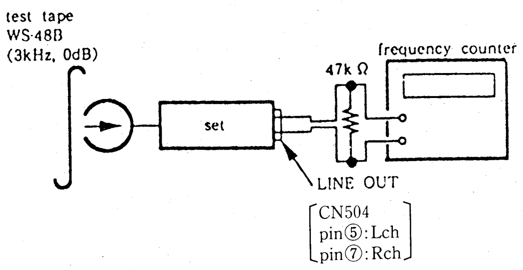
Adjustment Location : Record/playback head


FWD
REV
Adjustment screw

Tape Speed Adjustment DECK A DECK B

Procedure :

Mode: playback


test tape
WS-48B
(3kHz, 0dB)
set
47k Ω
frequency counter
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

Perform high speed adjustment before normal speed adjustment.

(High speed adjustment)

1. Continue pressing the SYNCHRO DUBBING HIGH SPEED switch.
2. Check that frequency counter reading is within the standard value 6,000±60Hz.
3. If out of the standard, adjust each RV72 so that the frequency counter reading satisfies 6,000±60Hz on both A and B decks.
4. Change over to Rev playback status, and repeat the above steps 1 to 3.

(Normal speed adjustment)

1. Continue pressing the SYNCHRO DUBBING NORM SPEED switch.
2. Check that the frequency counter reading is within the standard value 3,000±30Hz.
3. If out of the standard, adjust each RV71 so that the frequency counter reading satisfies 3,000±30Hz on both A and B decks.
4. Change over to REV playback status, and repeat the above steps 1 to 3.

Frequency difference between the beginning and the end of the tape should be within 3%.

Frequency difference between deck A and deck B the beginning of the tape should be within 1.0%.

Adjustment Location :

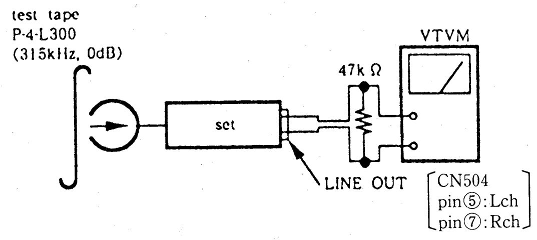
MD-A, MD-B board

Playback Level Adjustment

DECK A DECK B

Procedure :

Mode: playback


test tape
P-4-L300
(315kHz, 0dB)
set
47k Ω
VTVM
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

Adjust RV11 (L-CH), RV21 (R-CH) so that the reading on VTVM meets the adjustment limits below.

Adjustment Limits :

LINE OUT level: −7.7±0.5dB (0.30−0.33V)

Level difference between channels: less than 0.5dB

Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD-A, MD-B board

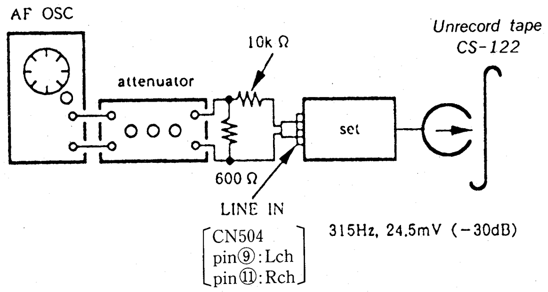
Record Bias Adjustment DECK B

Setting :

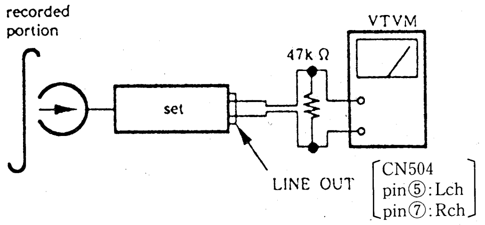
REC LEVEL control : Standard Record (See page 7).

Procedure :

1. Mode : record


AF OSC
attenuator
10k Ω
600 Ω
set
Unrecord tape
CS-122
LINE IN
CN504
pin⑨:Lch
pin⑪:Rch
315Hz, 24.5mV (−30dB)

2. Mode : playback


recorded portion
VTVM
47k Ω
set
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

Playback the signal recorded in step 1.
Confirm that the 10kHz playback output is 0±0.5dB relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

Adjustment Location : MD-B board

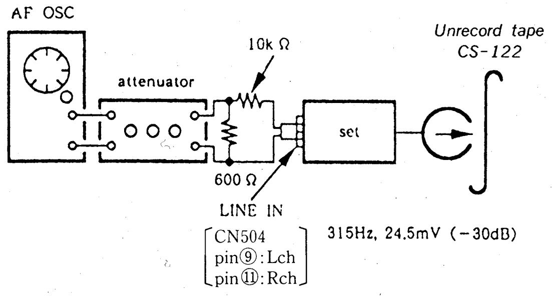
Record Level Adjustment DECK B

Setting :

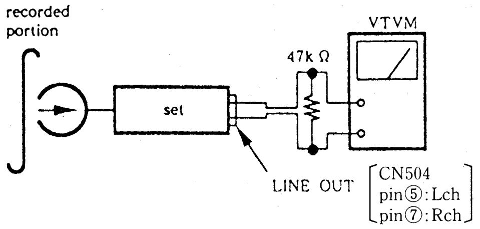
REC LEVEL control : Standard Record (See page 7).

Procedure :

1. Mode: record


AF OSC
attenuator
10k Ω
600 Ω
set
Unrecord tape
CS-122
LINE IN
CN504
pin⑨:Lch
pin⑪:Rch
315Hz, 24.5mV (−30dB)

2. Mode: playback


recorded portion
VTVM
47k Ω
set
LINE OUT
CN504
pin⑤:Lch
pin⑦:Rch

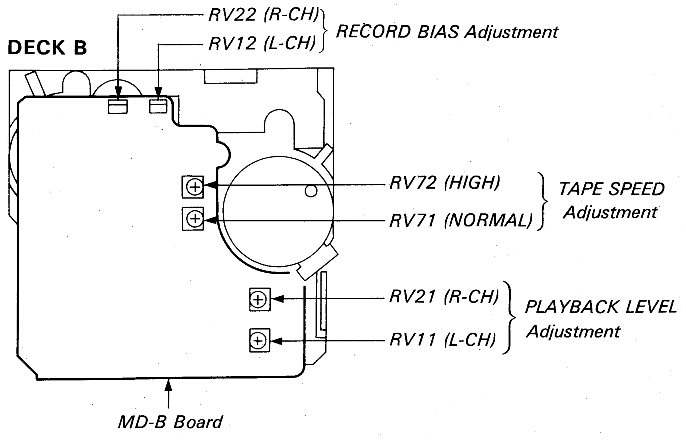
3. Playback the signal recorded in step 1.
Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-2.

Adjustment Limits : −7dB±0.5dB (0.33−0.36V)

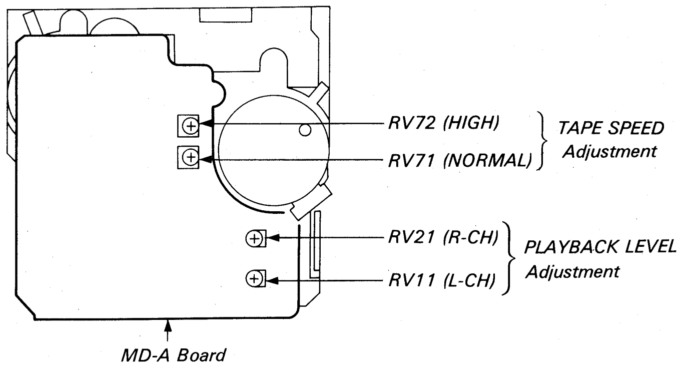
Adjustment Location : MAIN board (component side)

−Adjustment Parts Location Diagrams−

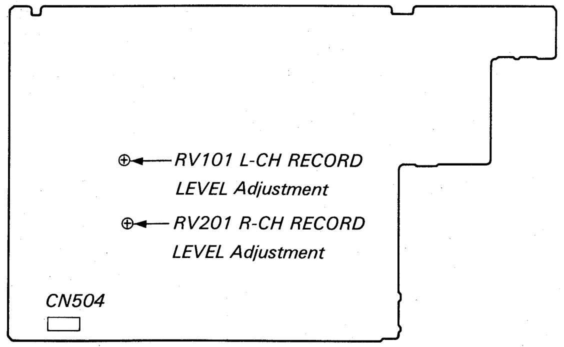
DECK B


RV22 (R-CH)
RV12 (L-CH)
RECORD BIAS Adjustment
RV72 (HIGH)
RV71 (NORMAL)
TAPE SPEED Adjustment
RV21 (R-CH)
RV11 (L-CH)
PLAYBACK LEVEL Adjustment
MD-B Board

DECK A

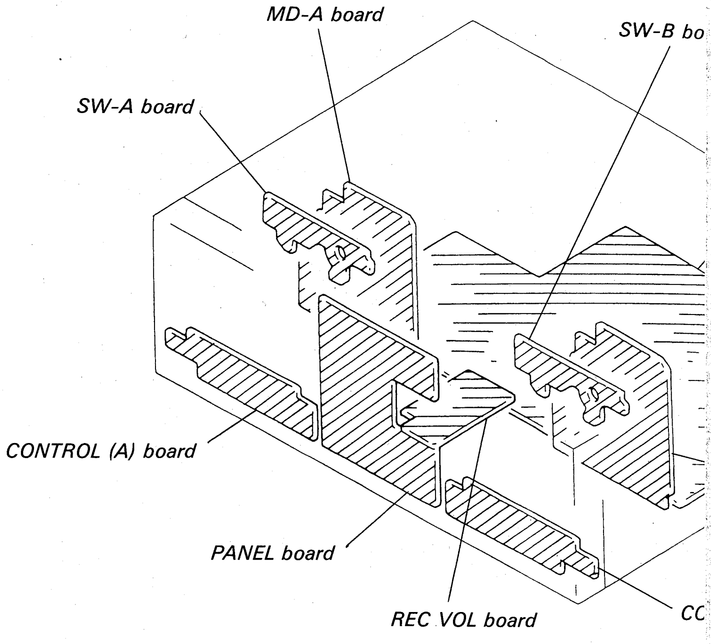

RV72 (HIGH)
RV71 (NORMAL)
TAPE SPEED Adjustment
RV21 (R-CH)
RV11 (L-CH)
PLAYBACK LEVEL Adjustment
MD-A Board

MAIN BOARD (COMPONENT SIDE)


RV101 L-CH RECORD LEVEL Adjustment
RV201 R-CH RECORD LEVEL Adjustment
CN504

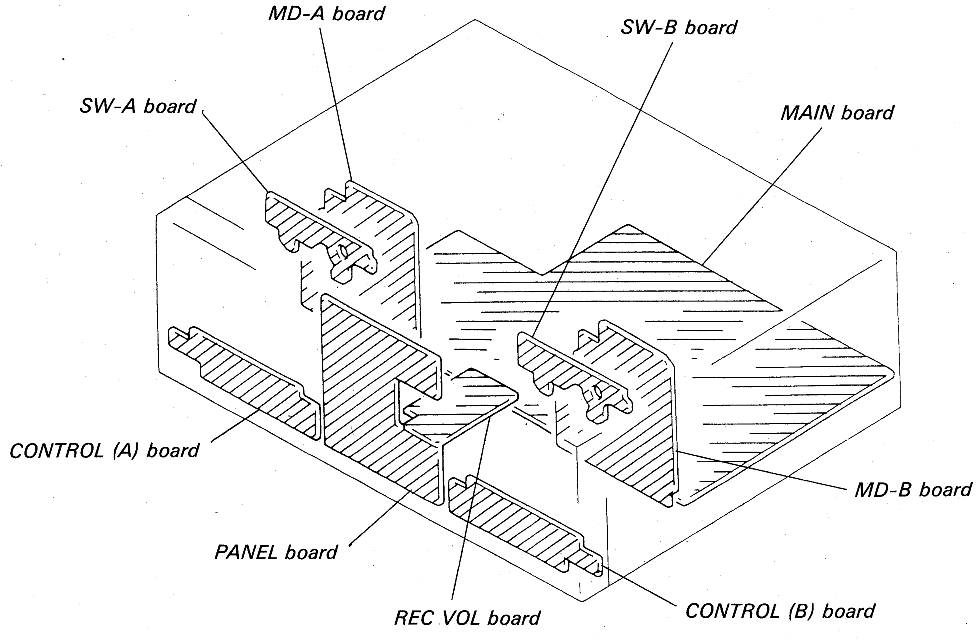
SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION


MD-A board
SW-B bo
SW-A board
CONTROL (A) board
PANEL board
REC VOL board
CC

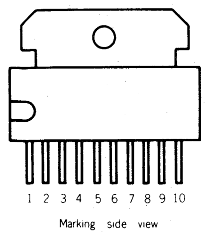
SECTION 5
DIAGRAMS

CUIT BOARDS LOCATION

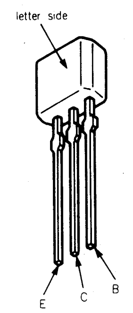

MD-A board
SW-B board
SW-A board
MAIN board
CONTROL (A) board
MD-B board
PANEL board
REC VOL board
CONTROL (B) board

5-2. SEMICONDUCTOR LEAD LAYOUTS

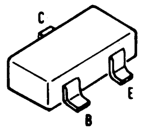
TA7272P


1 2 3 4 5 6 7 8 9 10
Marking side view

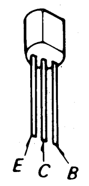
2SA1175-HFE
2SC3623A-LK
DTC144ES


letter side
E
C
B

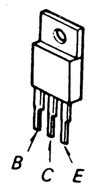
2SA1602



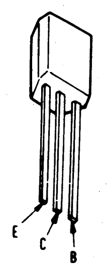
2SB1013-4



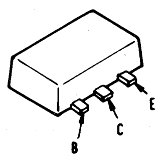
2SB1094-LK
2SD2012



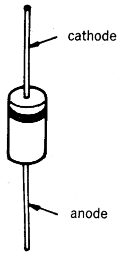
2SC2603-EF
DTA114ES
DTA144ES
DTC114ES
DTC143TS



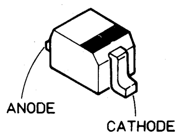
2SD1622-S



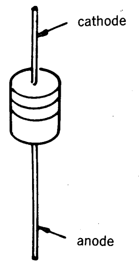
1N4148M
10E2N


cathode
anode

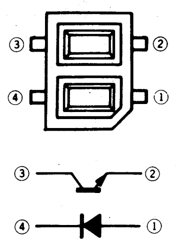
1SS355


ANODE
CATHODE

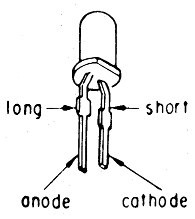
HZS6A1L
HZS7A1L
HZS9A2L


cathode
anode

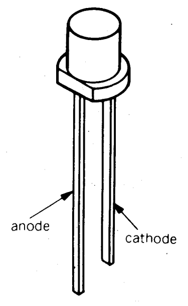
NJL5165K-B



SEL2210S-C


long
short
anode
cathode

SEL2213C-C


anode
cathode

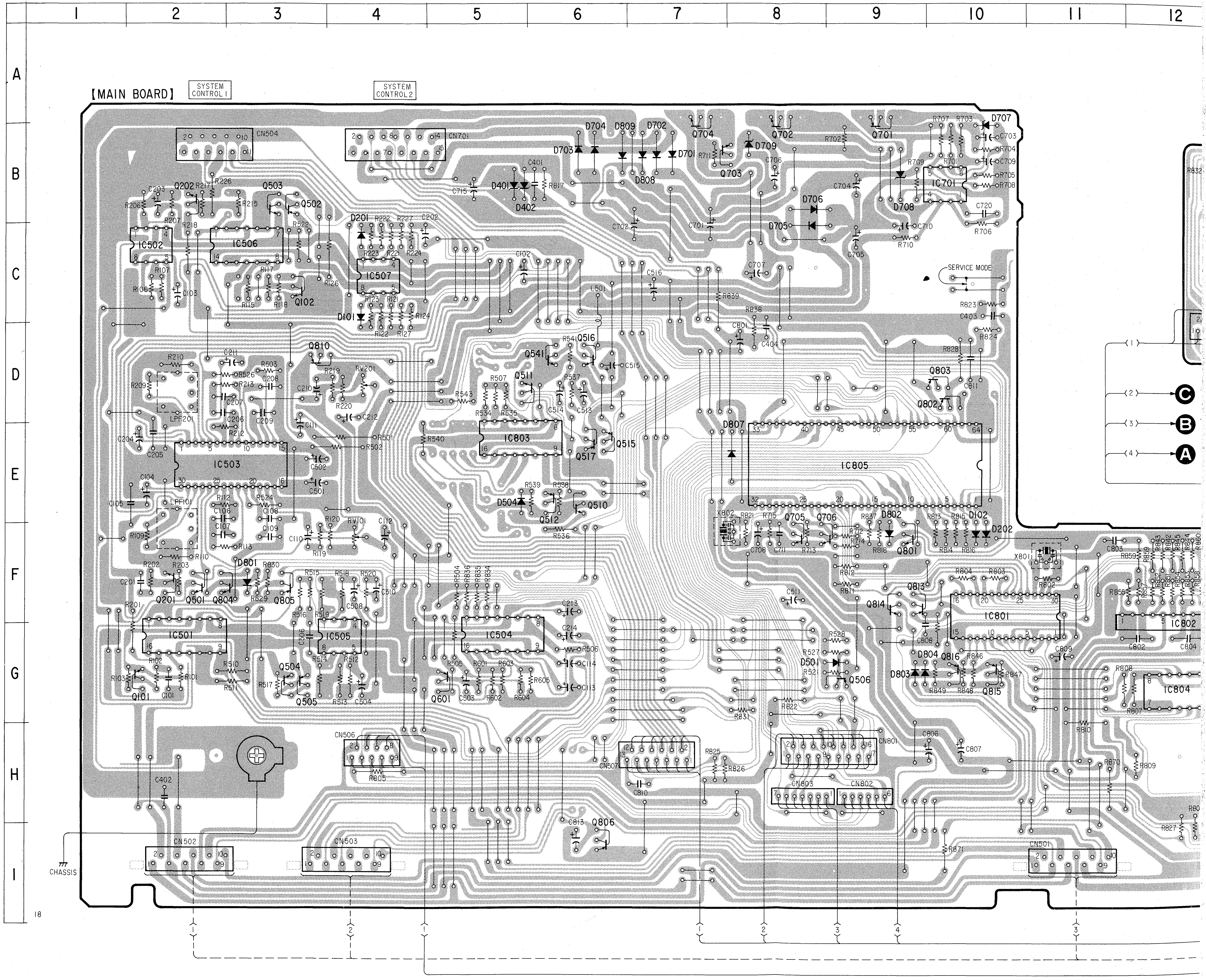
5-3. PRINTED WIRING BOARDS – MAIN section –

• See page 10,11 Circuit boards location and Semiconductor lead layouts.

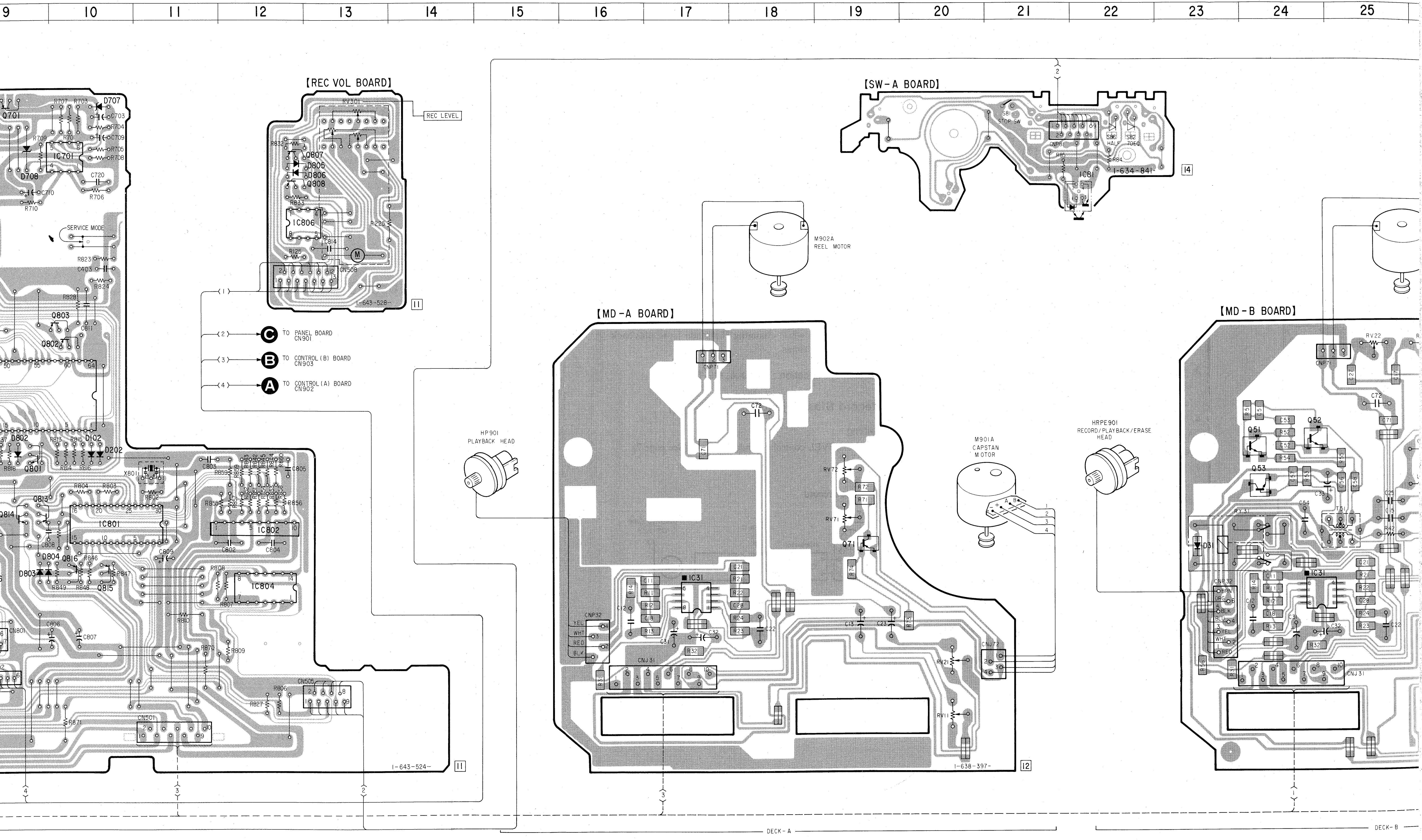
● Semiconductor Location

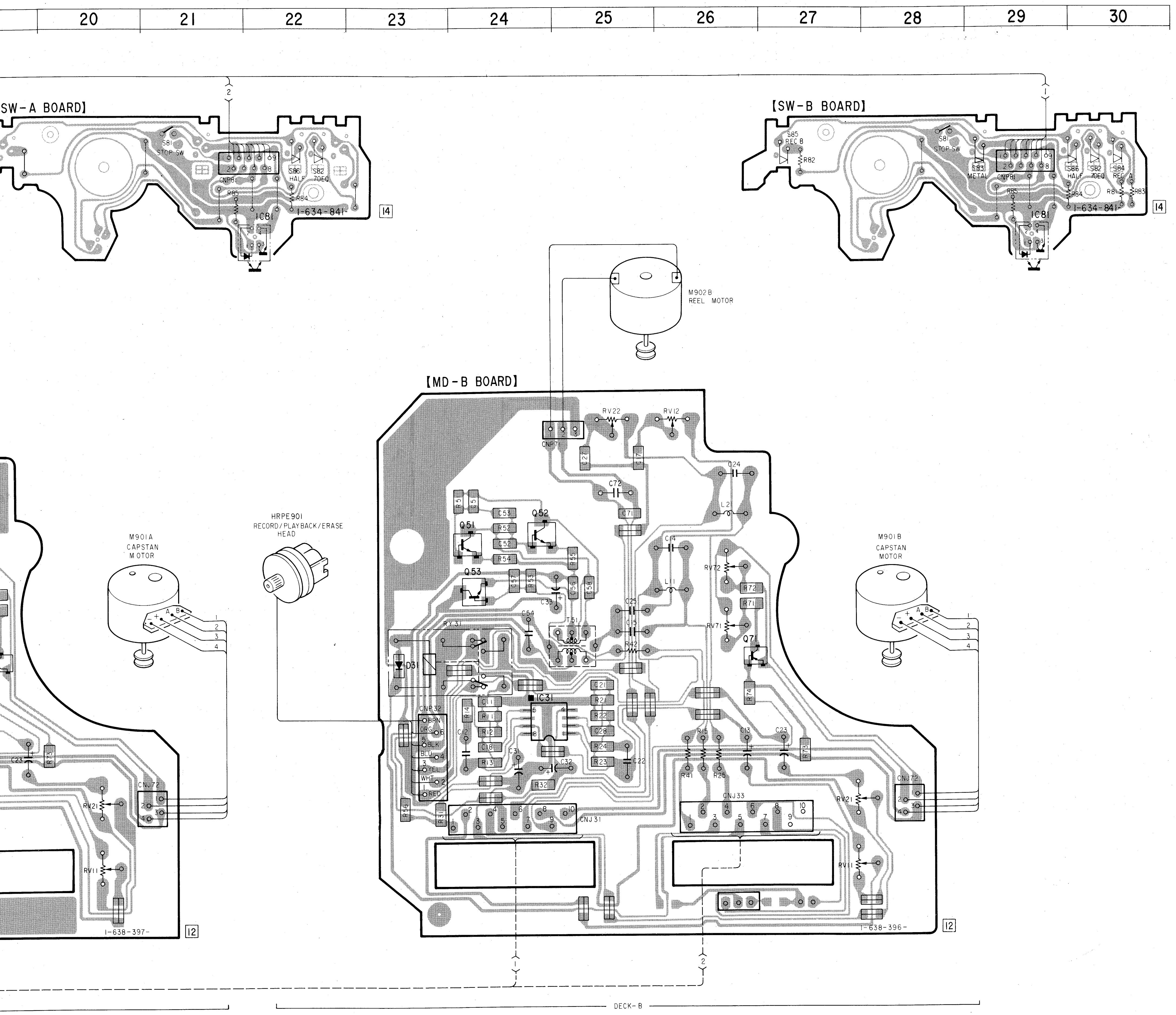
Ref. No.	Location	Ref. No.	Location
D31	G-23	Q51	E-24
D101	C-4	Q52	E-24
D102	F-10	Q53	F-24
D201	C-4	Q71(MD-A)	G-19
D202	F-10	Q71(MD-B)	G-27
D401	B-5	Q101	G-2
D402	B-5	Q102	C-3
D501	G-9	Q201	F-2
D504	E-5	Q202	B-2
D701	B-7	Q501	F-2
D702	B-7	Q502	B-3
D703	B-6	Q503	B-3
D704	B-6	Q504	G-3
D705	B-8	Q505	G-3
D706	B-8	Q506	G-9
D707	B-10	Q510	E-6
D708	B-9	Q511	D-6
D709	B-8	Q512	E-9
D801	F-3	Q514	D-6
D802	F-9	Q515	E-6
D803	G-9	Q516	D-6
D804	G-10	Q601	G-5
D805	B-12	Q701	A-9
D806	B-12	Q702	A-8
D807	E-8	Q703	B-8
D808	B-7	Q704	A-7
D809	B-6	Q705	F-8
		Q706	F-9
IC31(MD-A)	G-17	Q801	F-9
IC31(MD-B)	G-24	Q802	D-10
IC81(SW-A)	C-22	Q803	D-10
IC81(SW-B)	C-29	Q804	F-3
IC501	G-2	Q805	F-3
IC502	C-2	Q806	I-6
IC503	E-3	Q807	B-12
IC504	G-5	Q808	B-12
IC505	G-4	Q810	D-3
IC506	C-3	Q813	F-9
IC507	C-4	Q814	F-9
IC701	B-10	Q815	G-10
IC801	F-10	Q816	G-10
IC802	F-12		
IC803	E-5		
IC804	G-12		
IC805	E-9		
IC806	B-12		

Note:
- ○—— : parts extracted from the component side.



1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
[MAIN BOARD]
SYSTEM CONTROL 1
SYSTEM CONTROL 2
CN504
CN701
CN506
CN507
CN801
CN803
CN802
CN502
CN503
CN501
IC502
IC506
IC507
IC503
IC501
IC505
IC504
IC803
IC805
IC701
IC801
IC802
IC804
LPF201
LPF101
X801
X802
L501
RV201
RV101
SERVICE MODE
CHASSIS
Q202
Q503
Q502
Q102
Q810
Q541
Q511
Q516
Q515
Q517
Q512
Q510
Q201
Q501
Q804
Q805
Q101
Q504
Q505
Q601
Q506
Q806
Q704
Q702
Q703
Q701
Q705
Q706
Q801
Q802
Q803
Q813
Q814
Q816
Q815
D201
D101
D401
D402
D703
D704
D809
D702
D701
D808
D709
D706
D705
D707
D708
D807
D504
D801
D501
D803
D804
D802
D102
D202
18
(1)
(2)
(3)
(4)
C
B
A
1
2
3
4


9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
【REC VOL BOARD】
RV301
REC LEVEL
IC806
CN508
1-643-528-
11
【SW-A BOARD】
S81 STOP SW
S86 HALF
S82 70C0
IC81
1-634-841-
14
M902A REEL MOTOR
SERVICE MODE
IC701
IC801
IC802
IC804
CN501
CN505
1-643-524-
11
TO PANEL BOARD CN901
TO CONTROL (B) BOARD CN903
TO CONTROL (A) BOARD CN902
C
B
A
【MD-A BOARD】
CNP71
IC31
CNP32
YEL
WHT
RED
BLK
CNJ31
CNJ72
RV21
RV11
RV71
RV72
Q71
1-638-397-
12
HP901 PLAYBACK HEAD
M901A CAPSTAN MOTOR
HRPE901 RECORD/PLAYBACK/ERASE HEAD
【MD-B BOARD】
RV22
Q51
Q52
Q53
T51
D31
RY31
CNP32
BRN
ORG
BLK
BLU
YEL
WHT
RED
IC31
CNJ31
DECK-A
DECK-B

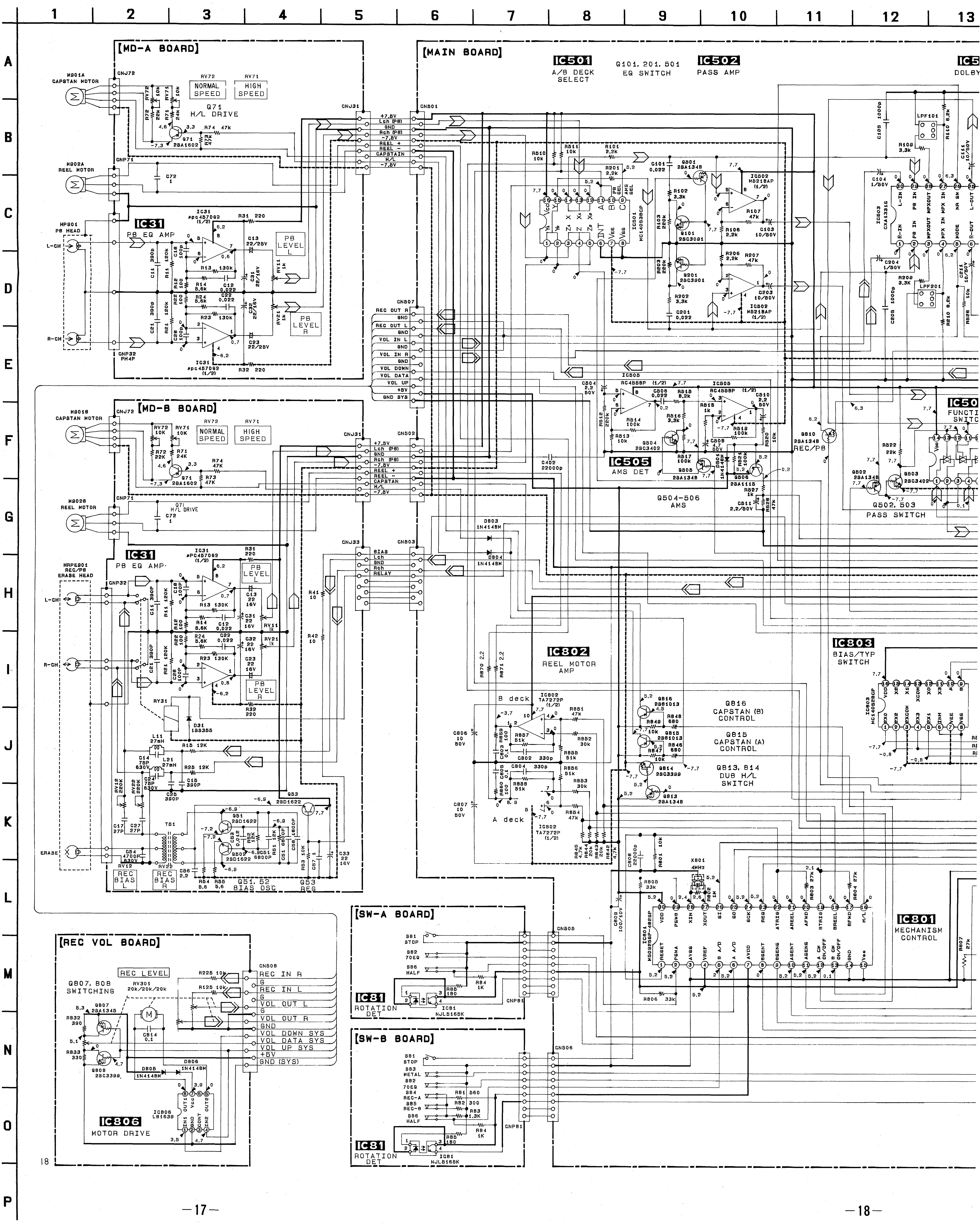

20
21
22
23
24
25
26
27
28
29
30
SW-A BOARD
S81 STOP SW
CNP81
S86 HALF
S82 70EQ
R85
R84
IC81
1-634-841
14
SW-B BOARD
S85 REC B
R82
S83 METAL
S84 REC A
R81
R83
M902B REEL MOTOR
MD-B BOARD
CNP71
RV22
RV12
C24
C72
L21
C71
Q51
Q52
Q53
C53
R52
C52
R54
C14
RV72
R72
R71
RV71
L11
C25
C15
R42
T51
C64
C33
RY31
D31
Q71
R74
CNP32
BRN
ORG
BLK
BLU
YEL
WHT
RED
IC31
C11
R11
R12
C18
R13
C31
C32
R32
C21
R21
R22
C28
R24
R23
C22
R15
C13
C23
R41
R25
R73
CNJ31
CNJ33
CNJ72
RV21
RV11
HRPE901 RECORD/PLAYBACK/ERASE HEAD
M901A CAPSTAN MOTOR
M901B CAPSTAN MOTOR
1-638-397-
1-638-396-
12
DECK-B

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- ▬ : B+ Line
- ▬ ▬ : B– Line
- ☐ : adjustment for repair.

- Voltage is dc with re
under no-signal (detun
no mark : REC
- Voltages are taken wit
Voltage variations ma
tion tolerances.
- Signal path.
: PB (DECK A)
: PB (DECK B)
: REC (DECK

5-4. SCHEMATIC DIAGRAMS – MAIN section –



MD-A BOARD
MAIN BOARD
MD-B BOARD
REC VOL BOARD
SW-A BOARD
SW-B BOARD
M901A CAPSTAN MOTOR
M902A REEL MOTOR
HP901 PB HEAD
M901B CAPSTAN MOTOR
M902B REEL MOTOR
HRPE901 REC/PB ERASE HEAD
NORMAL SPEED
HIGH SPEED
Q71 H/L DRIVE
IC31 PB EQ AMP
PB LEVEL L
PB LEVEL R
REC BIAS L
REC BIAS R
Q51, 52 BIAS OSC
Q53 REG
IC501 A/B DECK SELECT
Q101, 201, 501 EQ SWITCH
IC502 PASS AMP
IC505 AMS DET
Q504-506 AMS
Q810 2SA1348 REC/PB
Q502, 503 PASS SWITCH
IC802 REEL MOTOR AMP
B deck
A deck
Q816 CAPSTAN (B) CONTROL
Q815 CAPSTAN (A) CONTROL
Q813, 814 DUB H/L SWITCH
IC803 BIAS/TYP SWITCH
IC801 MECHANISM CONTROL
IC806 MOTOR DRIVE
REC LEVEL
Q807, 808 SWITCHING
IC81 ROTATION DET
REC IN R
REC IN L
VOL OUT L
VOL OUT R
GND
VOL DOWN SYS
VOL DATA SYS
VOL UP SYS
+5V
GND (SYS)
REC OUT R
REC OUT L
VOL IN L
VOL IN R
VOL DOWN
VOL DATA
VOL UP
GND SYS
+7.5V
Lch (PB)
Rch (PB)
-7.5V
REEL +
REEL –
CAPSTAIN
H/L
BIAS
Lch
Rch
RELAY
S81 STOP
S82 70EQ
S86 HALF
S83 METAL
S84 REC-A
S85 REC-B

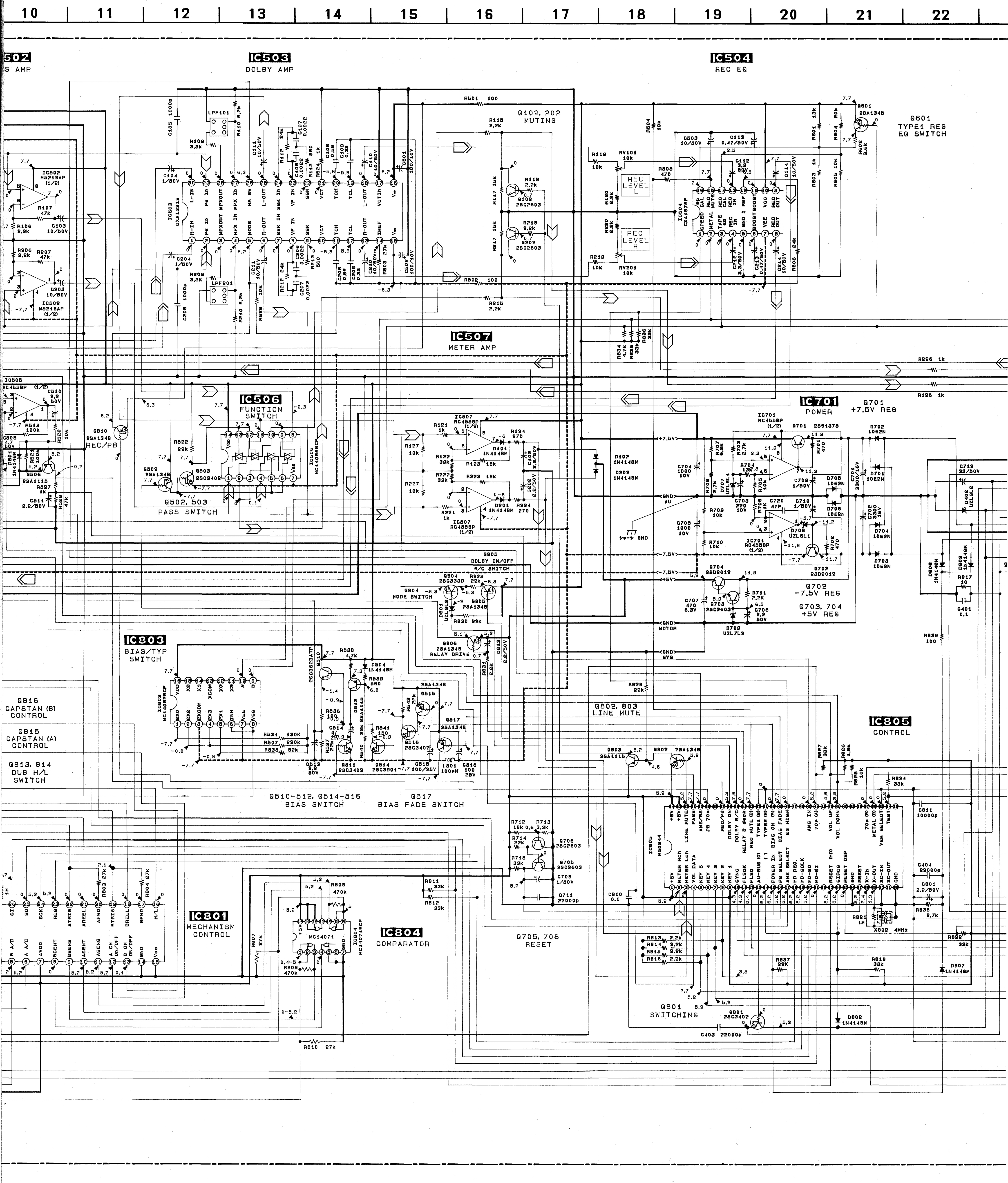
less otherwise noted. pF: µµF
icated except for electrolytics

¼W or less unless otherwise

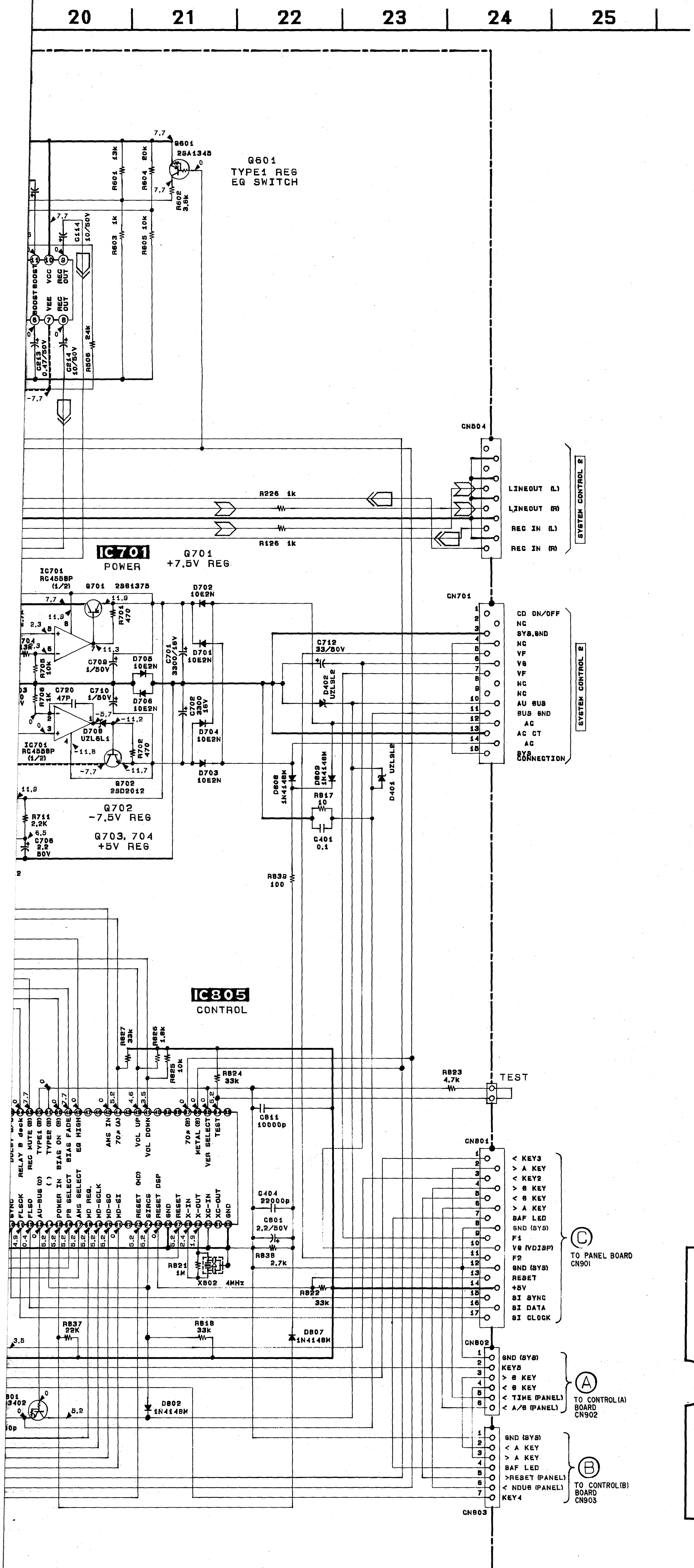
t.
tor.

ir.

- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark: REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⊳⊳ : PB (DECK A)
  ▷ : PB (DECK B)
  ▷⊳ : REC (DECK B)

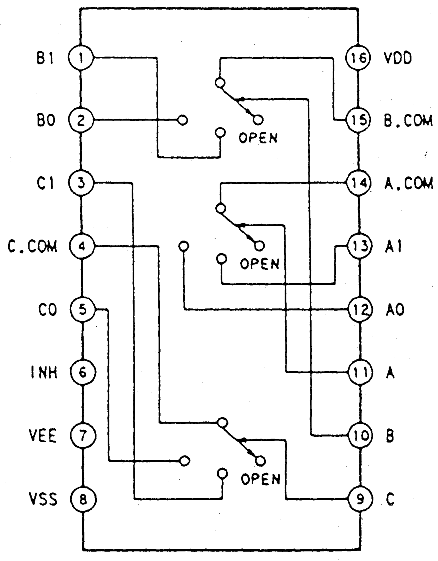


10
11
12
13
14
15
16
17
18
19
20
21
22
IC502
S AMP
IC503
DOLBY AMP
IC504
REC EQ
Q102, 202
MUTING
Q601
TYPE1 REG
EQ SWITCH
REC LEVEL L
REC LEVEL R
IC507
METER AMP
IC506
FUNCTION SWITCH
IC505
Q810
2SA1348
REC/PB
Q502, 503
PASS SWITCH
IC701
POWER
Q701
+7.5V REG
Q702
-7.5V REG
Q703, 704
+5V REG
Q805
DOLBY ON/OFF
B/C SWITCH
Q804
MODE SWITCH
Q806
RELAY DRIVE
IC803
BIAS/TYP SWITCH
Q816
CAPSTAN (B) CONTROL
Q815
CAPSTAN (A) CONTROL
Q813, 814
DUB H/L SWITCH
Q510–512, Q514–516
BIAS SWITCH
Q517
BIAS FADE SWITCH
Q802, 803
LINE MUTE
IC805
CONTROL
IC801
MECHANISM CONTROL
IC804
COMPARATOR
Q705, 706
RESET
Q801
SWITCHING
X802 4MHz

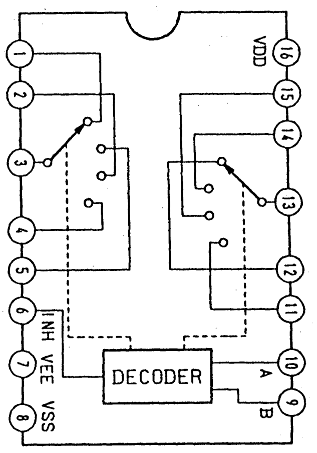

20
21
22
23
24
25
Q601 TYPE1 REG EQ SWITCH
Q601 2SA1348
R601 13k
R604 20k
R602 3.6k
R603 1k
R605 10k
C114 10/50V
R606 24k
C814 10/50V
BOOST
VCC
REG OUT
VEE
CN504
LINEOUT (L)
LINEOUT (R)
REC IN (L)
REC IN (R)
SYSTEM CONTROL 2
R226 1k
R126 1k
IC701 POWER
Q701 +7.5V REG
IC701 RC4558P (1/2)
Q701 2SB1375
D702 10E2N
D705 10E2N
D701 10E2N
D706 10E2N
D704 10E2N
D703 10E2N
D708 UZL6L1
Q702 2SD2012
Q702 -7.5V REG
Q703, 704 +5V REG
R711 2.2K
C706 2.2 50V
C712 33/50V
D402 UZL5L2
D401 UZL5L2
D808 1N4148M
D809 1N4148M
R817 10
C401 0.1
R839 100
CN701
CD ON/OFF
NC
SYS.GND
NC
VF
VS
VF
NC
NC
AU BUS
BUS GND
AC
AC CT
AC
SYS CONNECTION
SYSTEM CONTROL 2
IC805 CONTROL
R827 33k
R826 1.8k
R825 10k
R824 33k
R823 4.7k
TEST
C811 10000p
C404 22000p
C801 2.2/50V
R838 2.7k
R821 1M
X802 4MHz
R822 33k
CN801
< KEY3
> A KEY
< KEY2
> B KEY
< B KEY
> A KEY
BAF LED
GND (SYS)
F1
VS (VDISP)
F2
GND (SYS)
RESET
+5V
SI SYNC
SI DATA
SI CLOCK
C
TO PANEL BOARD CN901
R837 22K
R818 33k
D807 1N4148M
D802 1N4148M
CN802
GND (SYS)
KEY5
> B KEY
< B KEY
< TIME (PANEL)
< A/B (PANEL)
A
TO CONTROL(A) BOARD CN902
GND (SYS)
< A KEY
> A KEY
BAF LED
>RESET (PANEL)
< NDUB (PANEL)
KEY4
B
TO CONTROL(B) BOARD CN903
CN803

- **IC Block Diagrams**

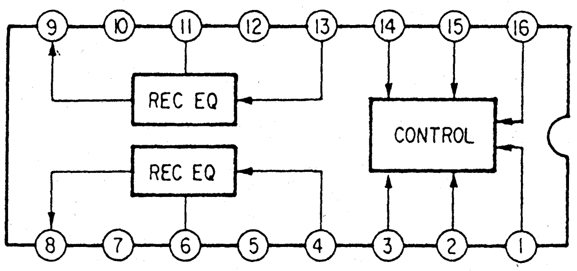
IC501 μPD4053BC


B1 ①
B0 ②
C1 ③
C.COM ④
C0 ⑤
INH ⑥
VEE ⑦
VSS ⑧
⑯ VDD
⑮ B.COM
⑭ A.COM
⑬ A1
⑫ A0
⑪ A
⑩ B
⑨ C
OPEN
OPEN
OPEN

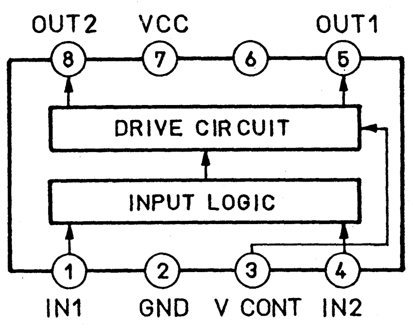
IC803 MC14052BCP


①
②
③
④
⑤
⑥
⑦
⑧
⑯ VDD
⑮
⑭
⑬
⑫
⑪
⑩
⑨
INH
VEE
VSS
DECODER
A
B

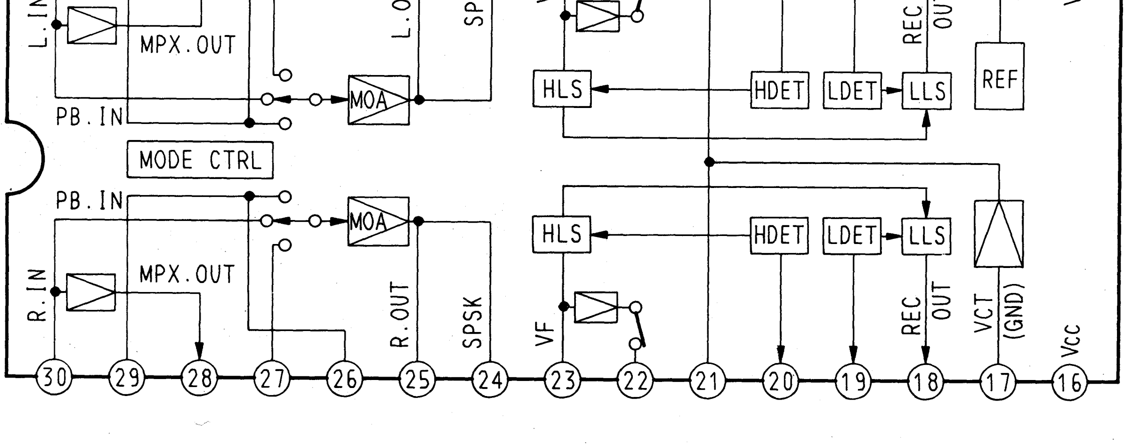
IC504 CXA1578P


⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
REC EQ
REC EQ
CONTROL
⑧
⑦
⑥
⑤
④
③
②
①

IC806 LB1639


OUT2
VCC
OUT1
⑧
⑦
⑥
⑤
DRIVE CIRCUIT
INPUT LOGIC
①
②
③
④
IN1
GND
V CONT
IN2

IC503 CXA1331S


①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
L.IN
MPX.OUT
PB.IN
L.OUT
SPSK
VF
MOA
HLS
HDET
LDET
LLS
REC OUT
REF
VEE
MODE CTRL
PB.IN
MOA
HLS
HDET
LDET
LLS
R.IN
MPX.OUT
R.OUT
SPSK
VF
REC OUT
VCT (GND)
Vcc
(30)
(29)
(28)
(27)
(26)
(25)
(24)
(23)
(22)
(21)
⑳
⑲
⑱
⑰
⑯

5-5. PRINTED WIRING BOARDS – PANEL section –

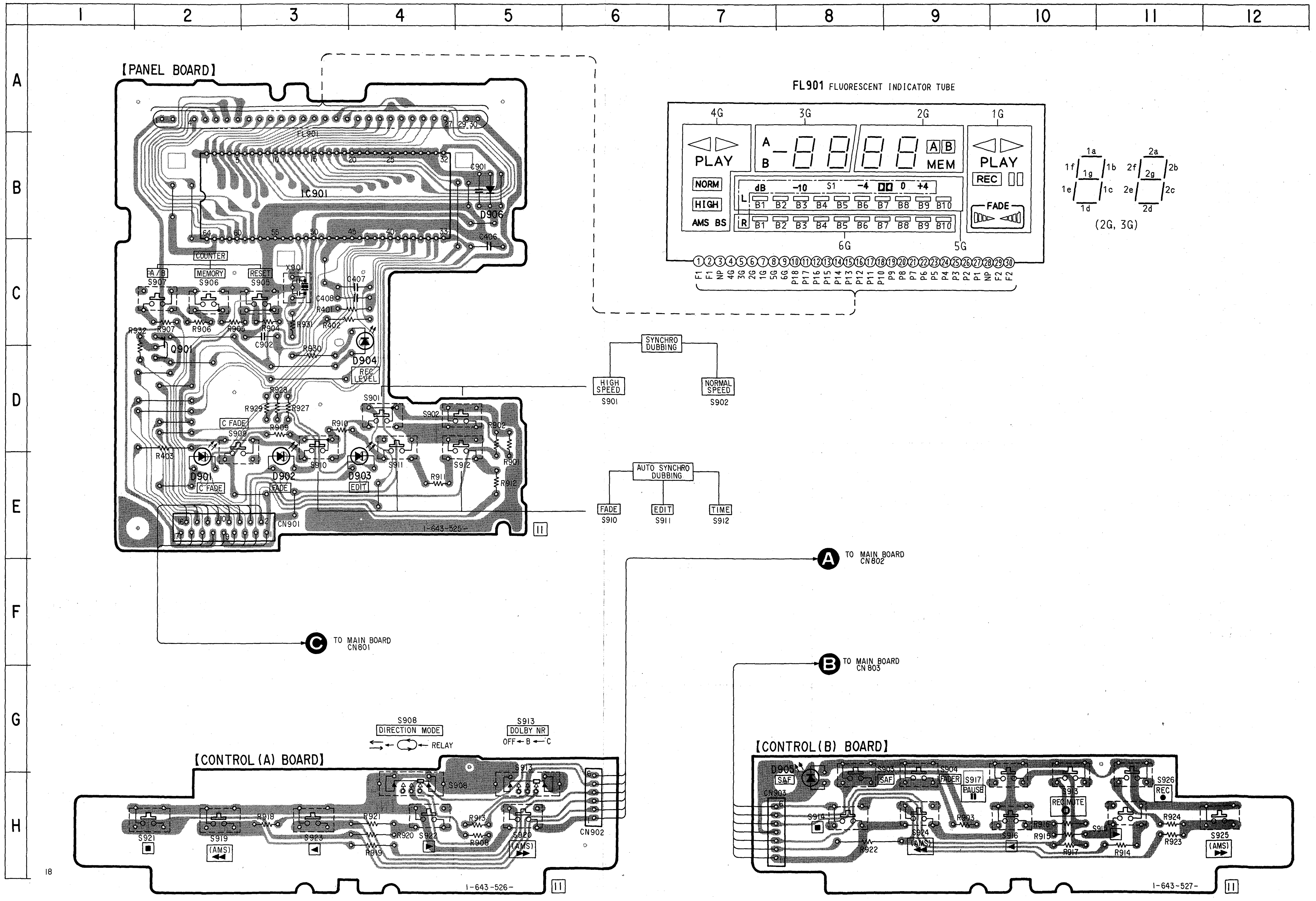
- See page 10,11 Circuit boards location and Semiconductor lead layouts.

Note:

- o—— : parts extracted from the component side.

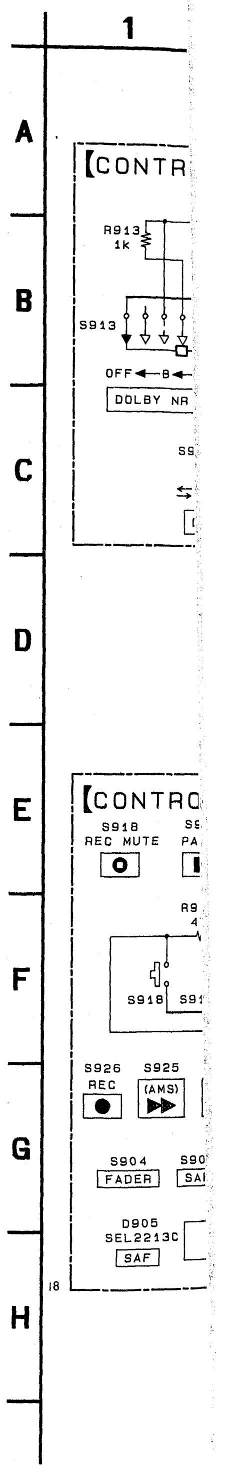
• Semiconductor Location

Ref. No.	Location
D901	E-2
D902	E-3
D903	E-4
D904	D-4
D905	H-8
D906	B-5
IC901	B-3
Q501	D-2



1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
[PANEL BOARD]
FL901 FLUORESCENT INDICATOR TUBE
4G 3G 2G 1G 6G 5G
PLAY
A B
MEM
REC
NORM
HIGH
AMS BS
dB −10 S1 −4 0 +4
L R
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10
FADE
(2G, 3G)
IC901
D906
C901
COUNTER
A/B S907
MEMORY S906
RESET S905
X901
C407 C408 R401 R402
R932 R907 R906 R905 R904 R931
Q901
C902
R930
D904
REC LEVEL
R928 R929 R927
C FADE S909
R926 R910
S901 S902
R403
D901 C FADE
D902 FADE
D903 EDIT
S910 S911 S912
R911 R901 R902 R912
CN901
1-643-525-
11
SYNCHRO DUBBING
HIGH SPEED S901
NORMAL SPEED S902
AUTO SYNCHRO DUBBING
FADE S910
EDIT S911
TIME S912
A TO MAIN BOARD CN802
B TO MAIN BOARD CN803
C TO MAIN BOARD CN801
S908 DIRECTION MODE
RELAY
S913 DOLBY NR
OFF ← B ← C
[CONTROL (A) BOARD]
S921 S919 S923 S922 S920
R918 R921 R920 R919 R915 R908
(AMS)
CN902
1-643-526-
[CONTROL (B) BOARD]
D905 SAF
CN903
S914 S903 S904 FADER S917 PAUSE S915 REC MUTE S916 S924 S926 REC S925 (AMS)
R922 R903 R916 R917 R914 R923 R924
1-643-527-
18

5-6. SCHEMA

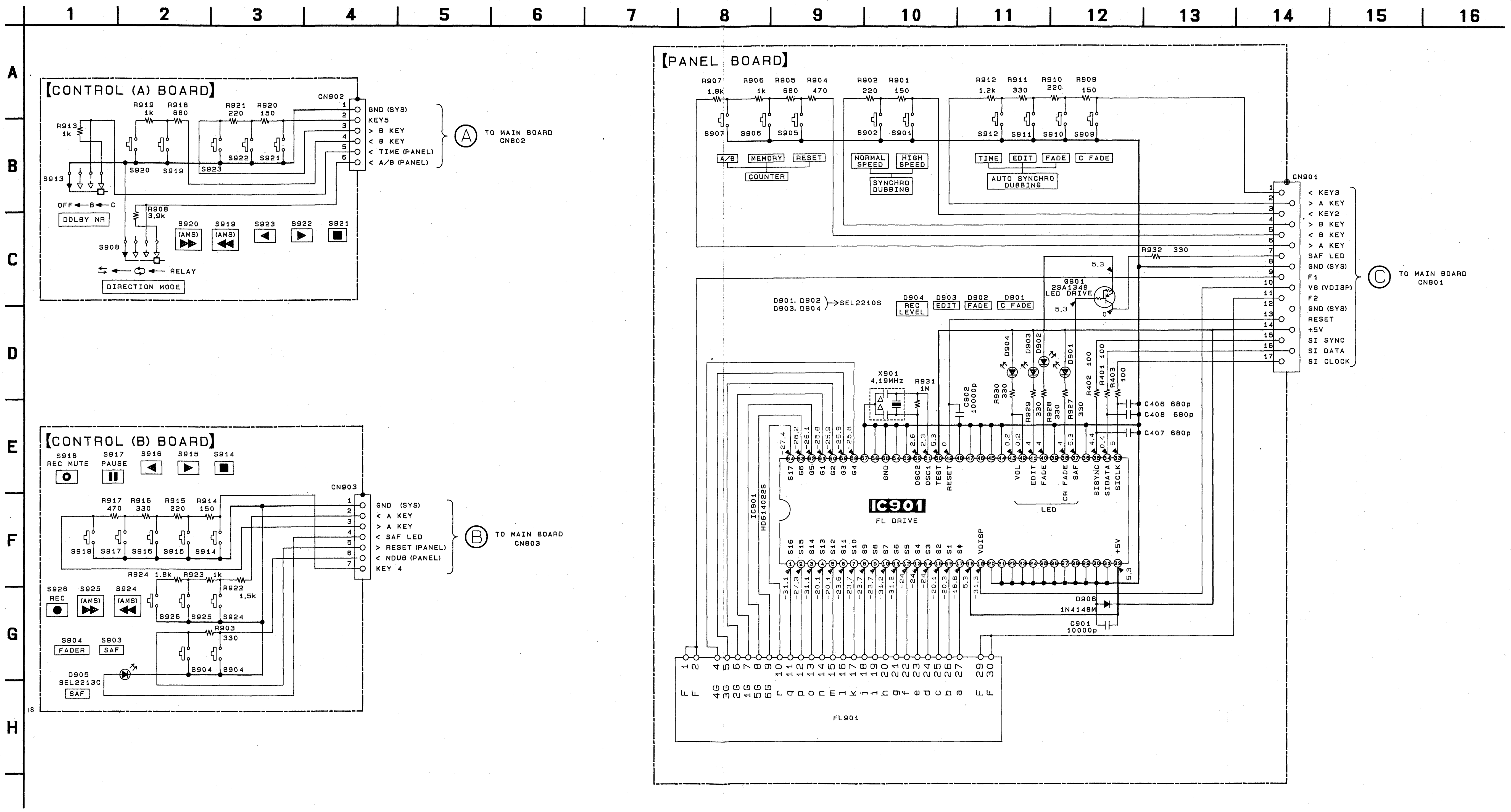


1
A B C D E F G H
[CONTR
R913 1k
S913
OFF ← B ←
DOLBY NR
[CONTRO
S918 REC MUTE
S926 REC
S925 (AMS)
S904 FADER
D905 SEL2213C SAF
18

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▬ : B+ Line
- Voltage is dc with respect to ground under no-signal (detuned) conditions. no mark : REC
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

5-6. SCHEMATIC DIAGRAMS – PANEL section –

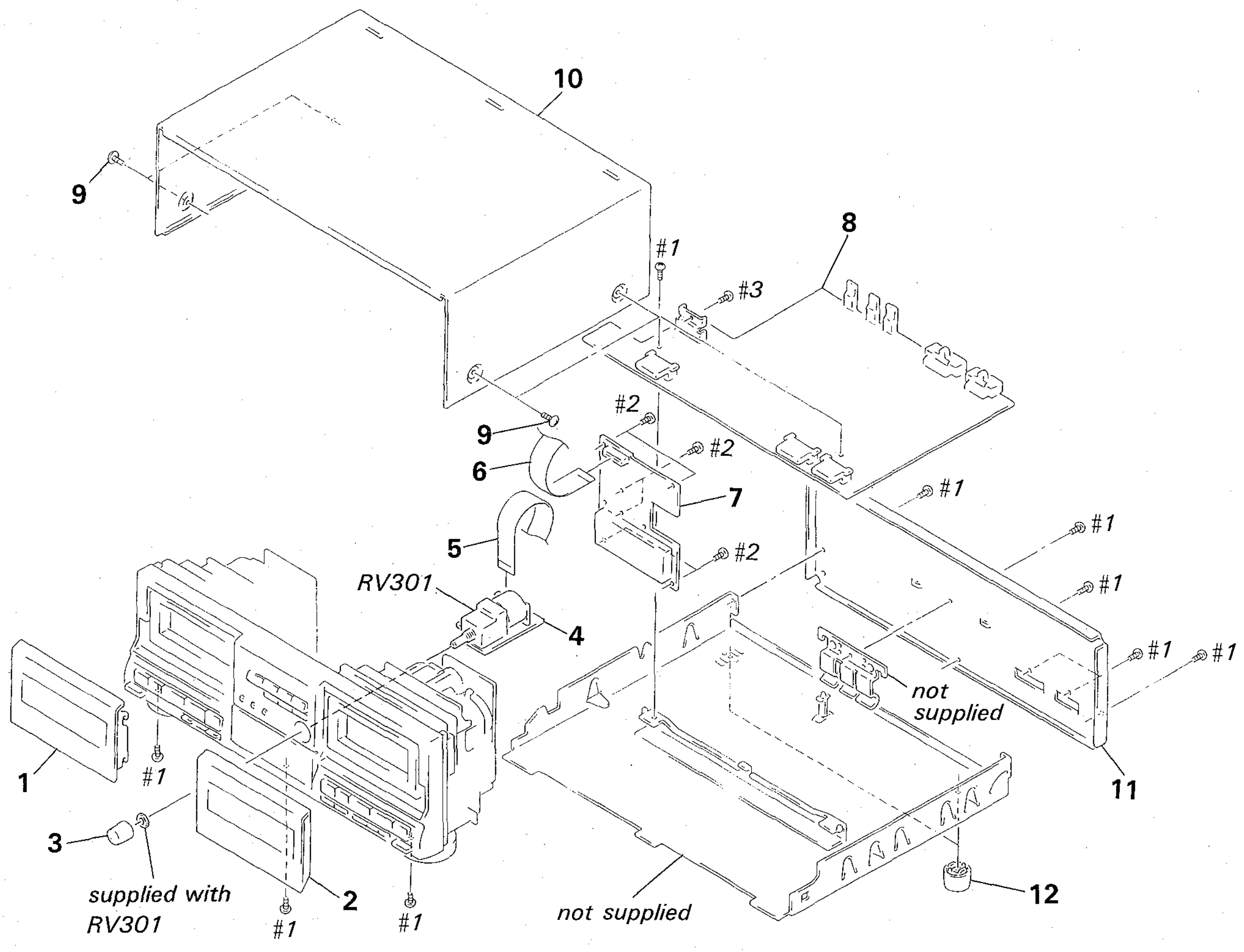

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H
[CONTROL (A) BOARD]
CN902
GND (SYS)
KEY5
> B KEY
< B KEY
< TIME (PANEL)
< A/B (PANEL)
Ⓐ TO MAIN BOARD CN802
R919 1k
R918 680
R921 220
R920 150
R913 1k
S913
S920
S919
S923
S922
S921
OFF ← B ← C
DOLBY NR
R908 3.9k
S908
(AMS)
RELAY
DIRECTION MODE
[CONTROL (B) BOARD]
S918 REC MUTE
S917 PAUSE
S916
S915
S914
CN903
GND (SYS)
< A KEY
> A KEY
< SAF LED
> RESET (PANEL)
< NDUB (PANEL)
KEY 4
Ⓑ TO MAIN BOARD CN803
R917 470
R916 330
R915 220
R914 150
R924 1.8k
R923 1k
R922 1.5k
S926 REC
S925
S924
S904 FADER
S903 SAF
R903 330
D905 SEL2213C
SAF
[PANEL BOARD]
R907 1.8k
R906 1k
R905 680
R904 470
R902 220
R901 150
R912 1.2k
R911 330
R910 220
R909 150
S907
S906
S905
S902
S901
S912
S911
S910
S909
A/B
MEMORY
RESET
COUNTER
NORMAL SPEED
HIGH SPEED
SYNCHRO DUBBING
TIME
EDIT
FADE
C FADE
AUTO SYNCHRO DUBBING
CN901
< KEY3
> A KEY
< KEY2
> B KEY
< B KEY
> A KEY
SAF LED
GND (SYS)
F1
VG (VDISP)
F2
GND (SYS)
RESET
+5V
SI SYNC
SI DATA
SI CLOCK
Ⓒ TO MAIN BOARD CN801
R932 330
Q901 2SA1348 LED DRIVE
D901, D902, D903, D904 SEL2210S
D904 REC LEVEL
D903 EDIT
D902 FADE
D901 C FADE
X901 4.19MHz
R931 1M
C902 10000p
R930 330
R929 330
R928 330
R927 330
R402 100
R401 100
R403 100
C406 680p
C408 680p
C407 680p
IC901 HD614022S
IC901
FL DRIVE
LED
D906 1N4148M
C901 10000p
FL901
S17 G6 G5 G1 G2 G3 G4 GND OSC2 OSC1 TEST RESET VOL EDIT FADE CR FADE SAF SISYNC SIDATA SICLK
S16 S15 S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4 S3 S2 S1 S0 VDISP +5V
F F 4G 3G 2G 1G 5G 6G r q p o n m l k j i h g f e d c b a F F

SECTION 6
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- hardware (#mark) list is given in the last of this parts list.

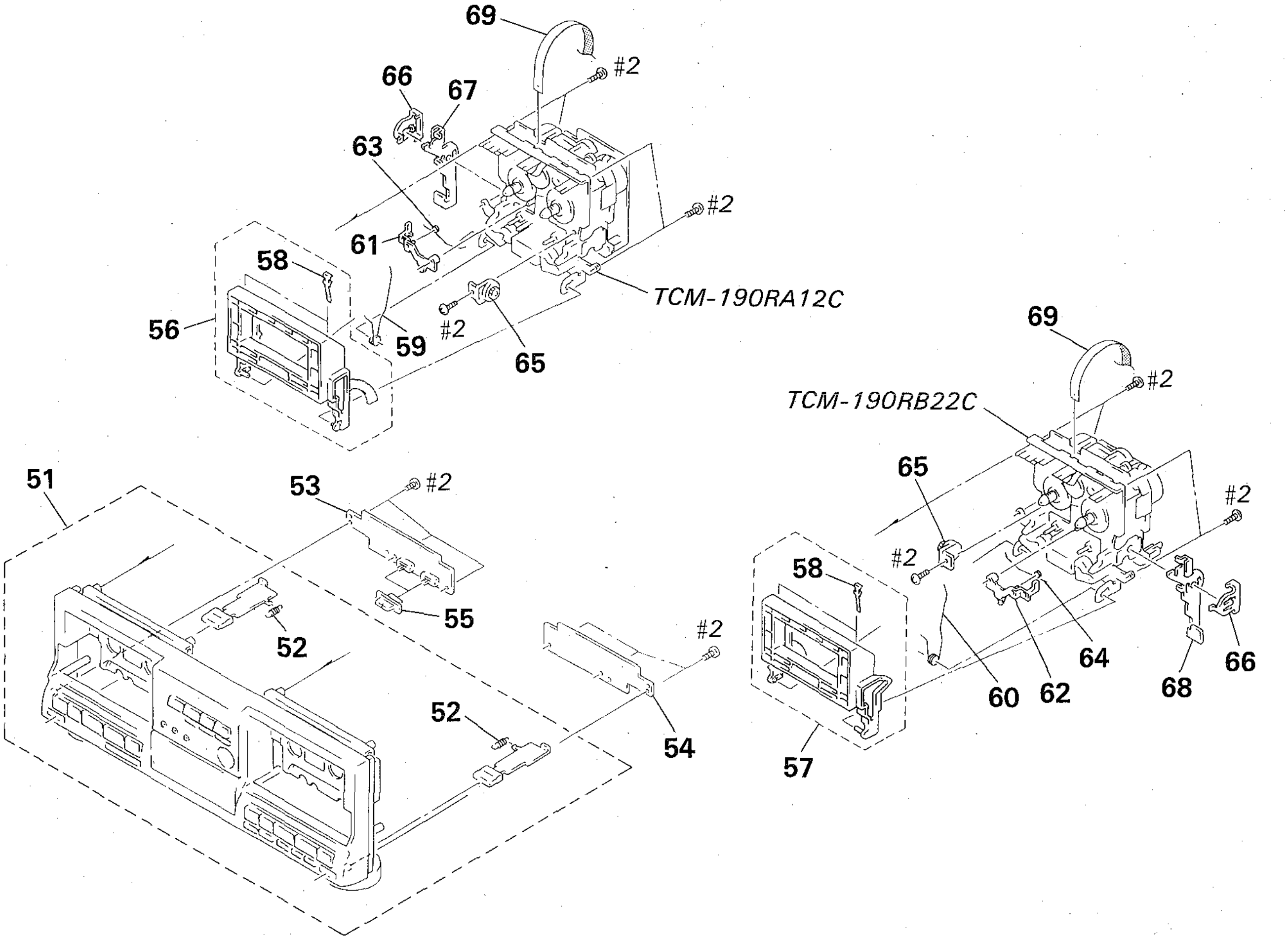
G:Germany EA:Saudi Arabia
IT:Italian AUS:Australian

6-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remark
1	X-3364-710-1	LID (A) ASSY, CASSETTE (AEP, G, UK, E, EA, AUS)	
1	X-3364-711-1	LID (A) ASSY, CASSETTE (IT)	
2	X-3364-714-1	LID (B) ASSY, CASSETTE (AEP, G, UK, E, EA, AUS)	
2	X-3364-718-1	LID (B) ASSY, CASSETTE (IT)	
3	4-950-651-21	KNOB (DIA. 16), ROUND (IT)	
3	4-950-651-31	KNOB (DIA. 16), ROUND (AEP, G, UK, E, EA, AUS)	
* 4	1-643-528-11	REC VOL BOARD	
* 5	1-574-726-11	WIRE, FLAT TYPE (13 CORE)	
6	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)	
* 7	A-2006-747-A	PANEL BOARD, COMPLETE	
* 8	A-2006-746-A	MAIN BOARD, COMPLETE	
9	3-363-099-01	SCREW (CASE +3X8 TP2)	
* 10	4-939-803-31	CASE (AEP, G, UK, E, EA, AUS)	
* 10	4-939-803-71	CASE (IT)	
* 11	3-377-136-31	PANEL, BACK (AEP, IT, UK, E, EA, AUS)	
* 11	3-377-136-41	PANEL, BACK (G)	
12	4-931-169-01	FOOT	
RV301	1-241-891-11	RES, VAR, CARBON 20KX3 (REC LEVEL)	

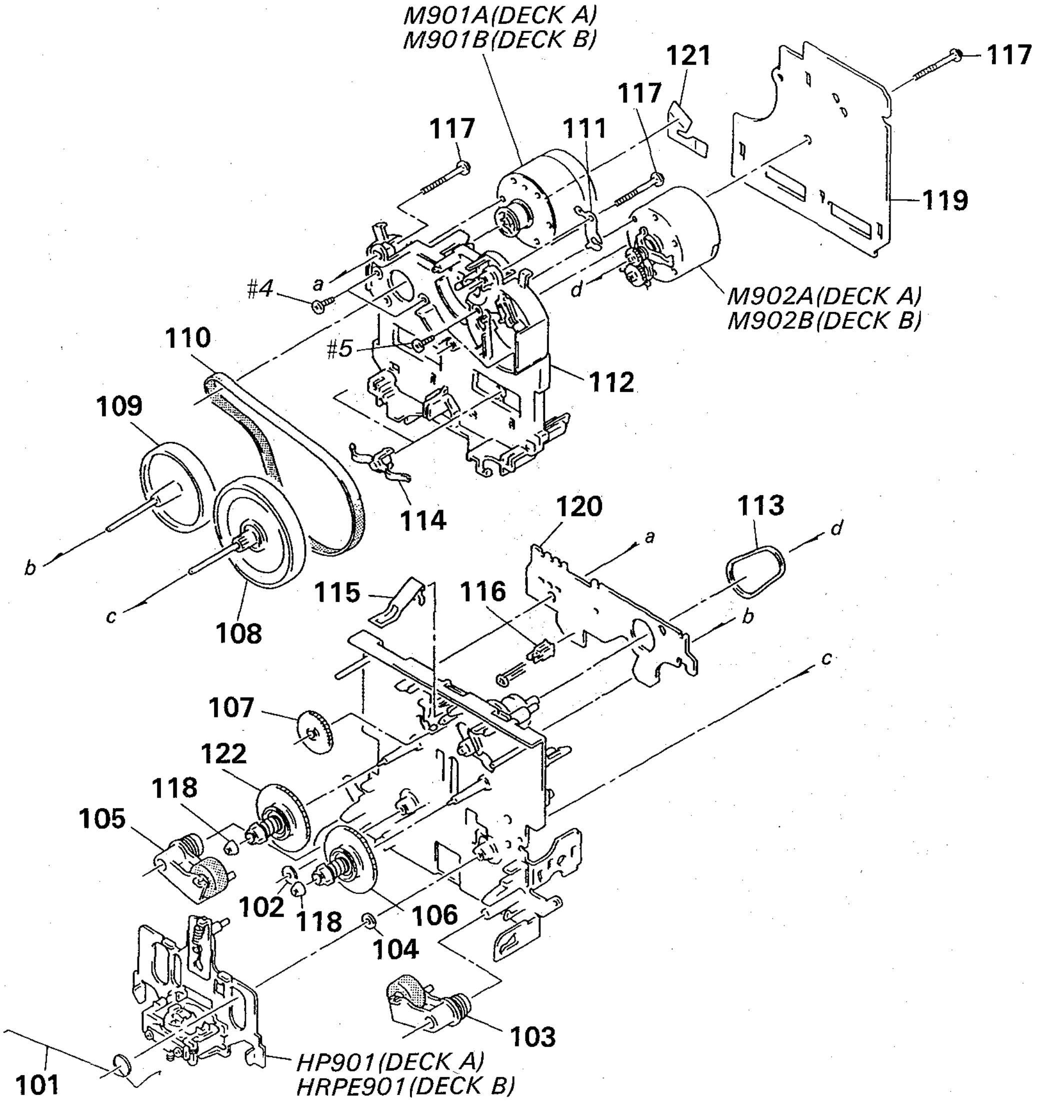
6-2. FRONT PANEL SECTION


69
#2
66
67
63
#2
61
58
56
59
#2
65
TCM-190RA12C
69
#2
TCM-190RB22C
65
#2
58
#2
51
53
#2
55
52
#2
52
54
57
60
62
64
66
68

Ref. No.	Part No.	Description	Remark
51	X-3364-708-1	PANEL ASSY, FRONT (AEP,G,UK,E,EA,AUS)	
51	X-3364-709-1	PANEL ASSY, FRONT (IT)	
52	3-662-752-21	SPRING, TENSION	
* 53	1-643-526-11	CONTROL (A) BOARD	
* 54	1-643-527-11	CONTROL (B) BOARD	
55	3-377-120-01	KNOB (SLIDE) (AEP,G,UK,E,EA,AUS)	
55	3-377-120-11	KNOB (SLIDE) (IT)	
56	X-3340-194-1	HOLDER (L) ASSY, CASSETTE	
57	X-3340-195-1	HOLDER (R) ASSY, CASSETTE	
58	3-308-823-11	SPRING	
59	3-354-959-01	SPRING (LOADING L), TORSION	
60	3-354-960-01	SPRING (LOADING R), TORSION	
61	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
62	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
63	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
64	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
65	3-354-963-01	DAMPER	
66	3-354-957-01	JOINT (LOCK LEVER)	
* 67	3-363-638-01	LEVER (LOCK LEVER L)	
* 68	3-363-639-01	LEVER (LOCK LEVER R)	
69	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	

6-3. MECHANISM SECTION 1

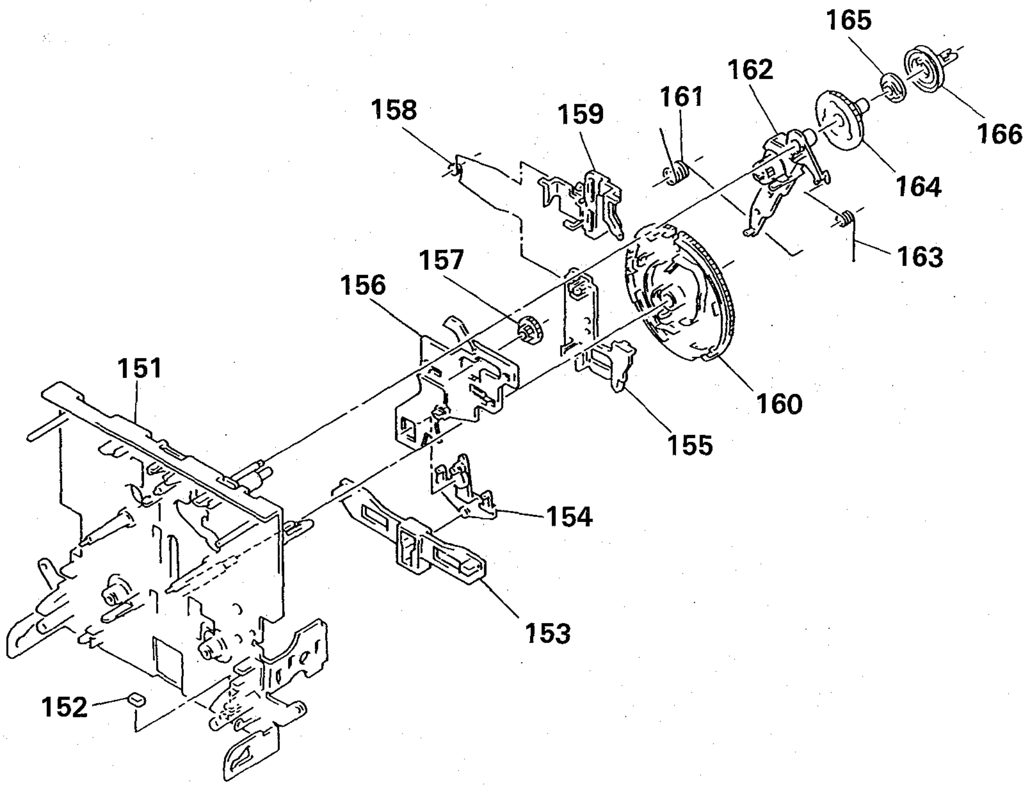
(TCM-190RA12C
TCM-190RB22C)


M901A(DECK A)
M901B(DECK B)
121
117
117
111
117
119
a
d
#4
#5
M902A(DECK A)
M902B(DECK B)
110
112
109
114
120
113
a
d
b
b
c
115
116
c
108
107
122
118
105
102
118
106
104
103
101
HP901(DECK A)
HRPE901(DECK B)

Ref. No.	Part No.	Description	Remark
101	3-359-455-01	SPRING, TORSION	
102	3-356-714-01	WASHER	
103	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
104	3-356-713-01	WASHER	
105	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
106	X-3359-404-1	TABLE ASSY, REEL	
107	3-359-424-01	GEAR (REV GEAR)	
108	X-3359-406-1	FLYWHEEL (FWD) COMPLETE ASSY (DECK A)	
108	X-3364-554-1	FLYWHEEL (FWD) ASSY (DECK B)	
109	X-3359-410-1	FLYWHEEL (REV) ASSY	
110	3-359-417-01	BELT (FLAT), CAPSTAN	
111	3-359-450-01	PLATE, GROUND	
* 112	3-359-436-01	BASE (THRUST RETAINER), FITTING	
113	3-359-466-01	BELT (FR), SQUARE	
114	3-575-321-00	RETAINER, THRUST, CAPSTAN	
115	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	
116	3-343-419-01	HOLDER (S SENSER A)	
117	3-359-414-01	SCREW (+PTPWH 2X23)	
118	3-362-308-01	CAP (REEL)	
* 119	A-2006-399-A	MD-A BORAD, COMPLETE (DECK A)	
* 119	A-2006-400-A	MD-B BOARD, COMPLETE (DECK B)	
* 120	1-634-841-14	SW-A BOARD (DECK A)	
* 120	1-634-841-14	SW-B BOARD (DECK B)	
121	1-638-983-11	MOTOR FLEXIBLE BOARD	
122	X-3362-078-1	TABLE ASSY (B), REEL	
HP901	A-2003-837-A	BASE ASSY, HEAD (PB) (DECK A)	
HRPE901	A-2003-838-A	BASE ASSY, HEAD (REC/PB/ERASE)	(DECK B)
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	

6-4. MECHANISM SECTION 2

(TCM-190RA12C
TCM-190RB22C)



Ref. No.	Part No.	Description	Remark
151	X-3363-790-1	CHASSIS ASSY, MECHANICAL (DECK A)	
151	X-3359-415-1	CHASSIS ASSY, MECHANICAL (DECK B)	
152	3-359-469-01	SPACER	
* 153	3-359-425-01	SLIDER (REVERSE SLIDER)	
154	3-359-426-01	LEVER (REVERSE LEVER)	
* 155	3-359-427-01	SLIDER (LEVERSE SLIDER)	
* 156	3-359-415-01	SLIDER (TRIGGER SLIDER)	
157	3-359-448-01	GEAR (TRIGGER)	
158	3-359-454-01	SPRING, TORSION	
159	3-359-429-01	SLIDER (BRAKE PLATE)	
160	3-359-420-01	GEAR (CAM GEAR)	
161	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
162	X-3359-405-1	LEVER (FR ARM) ASSY	
163	3-359-453-01	SPRING (FR ARM), TORSION	
164	3-359-419-01	GEAR (FR GEAR)	
165	3-359-421-01	CLUTCH (REEL DISK)	
166	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 7
ELECTRICAL PARTS LIST

CONTROL (A)

COHTROL (B) **MAIN**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- RESISTORS
  All resistors are in ohms
  METAL:Metal-film resistor
  METAL OXIDE:Metal Oxide-film resistor
  F:nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indication parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifé.

Ref.No.	Part No.	Description	Remark
*	1-643-526-11	CONTROL (A) BOARD	
		*****************	
		< CONNECTOR >	
* CN902	1-564-499-11	PIN, CONNECTOR 6P	
		< RESISTOR >	
R908	1-249-424-11	CARBON 3.9K 5% 1/4W	
R913	1-249-417-11	CARBON 1K 5% 1/4W	
R918	1-249-415-11	CARBON 680 5% 1/4W	
R919	1-249-417-11	CARBON 1K 5% 1/4W	
R920	1-249-407-11	CARBON 150 5% 1/4W	
R921	1-249-409-11	CARBON 220 5% 1/4W	
		< SWITCH >	
S908	1-572-378-11	SWITCH, SLIDE (DIRECTION MODE)	
S913	1-572-378-11	SWITCH, SLIDE (DOLBY NR)	
S919	1-554-303-21	SWITCH, TACTILE (AMS REW)	
S920	1-554-303-21	SWITCH, TACTILE (AMS FF)	
S921	1-554-303-21	SWITCH, TACTILE (STOP)	
S922	1-554-303-21	SWITCH, TACTILE (FWD)	
S923	1-554-303-21	SWITCH, TACTILE (REW)	
**********	**********	************************************	**********
*	1-643-527-11	CONTROL (B) BOARD	
		*****************	
		< CONNECTOR >	
* CN903	1-564-500-11	PIN, CONNECTOR 7P	
		< DIODE >	
D905	8-719-302-23	DIODE SEL2213C-C	
		< RESISTOR >	
R903	1-249-411-11	CARBON 330 5% 1/4W	
R914	1-249-407-11	CARBON 150 5% 1/4W	
R915	1-249-409-11	CARBON 220 5% 1/4W	
R916	1-249-411-11	CARBON 330 5% 1/4W	
R917	1-249-413-11	CARBON 470 5% 1/4W	
R922	1-249-419-11	CARBON 1.5K 5% 1/4W	
R923	1-249-417-11	CARBON 1K 5% 1/4W	
R924	1-249-420-11	CARBON 1.8K 5% 1/4W	
		< SWITCH >	
S903	1-554-303-21	SWITCH, TACTILE (SAF)	
S904	1-554-303-21	SWITCH, TACTILE (FADER)	
S914	1-554-303-21	SWITCH, TACTILE (STOP)	
S915	1-554-303-21	SWITCH, TACTILE (FWD)	
S916	1-554-303-21	SWITCH, TACTILE (REV)	
S917	1-554-303-21	SWITCH, TACTILE (PAUSE)	
S918	1-554-303-21	SWITCH, TACTILE (REC MUTE)	
S924	1-554-303-21	SWITCH, TACTILE (AMS REW)	
S925	1-554-303-21	SWITCH, TACTILE (AMS FF)	
S926	1-554-303-21	SWITCH, TACTILE (REC)	
**********	**********	************************************	**********
*	A-2006-746-A	MAIN BOARD, COMPLETE	
		********************	
*	4-942-204-01	PLATE, GROUND	
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
		< CAPACITOR >	
C101	1-136-157-00	FILM 0.022uF 5% 50V	
C102	1-126-161-11	ELECT 2.2uF 20% 50V	
C103	1-126-059-11	ELECT 10uF 20% 50V	
C104	1-126-301-11	ELECT 1uF 20% 50V	
C105	1-162-294-31	CERAMIC 0.001uF 10% 50V	

MAIN

Ref. No.	Part No.	Description			Remark
C106	1-130-475-00	MYLAR	0.0022uF	5%	50V
C107	1-130-475-00	MYLAR	0.0022uF	5%	50V
C108	1-136-174-00	FILM	0.56uF	5%	50V
C109	1-136-171-00	FILM	0.33uF	5%	50V
C110	1-126-059-11	ELECT	10uF	20%	50V
C111	1-126-059-11	ELECT	10uF	20%	50V
C112	1-126-162-11	ELECT	3.3uF	20%	50V
C113	1-126-300-11	ELECT	0.47uF	20%	50V
C114	1-126-059-11	ELECT	10uF	20%	50V
C201	1-136-157-00	FILM	0.022uF	5%	50V
C202	1-126-161-11	ELECT	2.2uF	20%	50V
C203	1-126-059-11	ELECT	10uF	20%	50V
C204	1-126-301-11	ELECT	1uF	20%	50V
C205	1-162-294-31	CERAMIC	0.001uF	10%	50V
C206	1-130-475-00	MYLAR	0.0022uF	5%	50V
C207	1-130-475-00	MYLAR	0.0022uF	5%	50V
C208	1-136-174-00	FILM	0.56uF	5%	50V
C209	1-136-171-00	FILM	0.33uF	5%	50V
C210	1-126-059-11	ELECT	10uF	20%	50V
C211	1-126-059-11	ELECT	10uF	20%	50V
C212	1-126-162-11	ELECT	3.3uF	20%	50V
C213	1-126-300-11	ELECT	0.47uF	20%	50V
C214	1-126-059-11	ELECT	10uF	20%	50V
C401	1-164-159-11	CERAMIC	0.1uF		50V
C402	1-101-005-00	CERAMIC	22000PF		50V
C403	1-101-005-00	CERAMIC	22000PF		50V
C404	1-101-005-00	CERAMIC	22000PF		50V
C501	1-124-994-11	ELECT	100uF	20%	10V
C502	1-124-994-11	ELECT	100uF	20%	10V
C503	1-126-059-11	ELECT	10uF	20%	50V
C504	1-126-161-11	ELECT	2.2uF	20%	50V
C508	1-126-163-11	ELECT	4.7uF	20%	50V
C510	1-126-161-11	ELECT	2.2uF	20%	50V
C511	1-126-161-11	ELECT	2.2uF	20%	50V
C513	1-126-161-11	ELECT	2.2uF	20%	50V
C514	1-124-910-11	ELECT	47uF	20%	50V
C515	1-124-478-11	ELECT	100uF	20%	25V
C516	1-124-478-11	ELECT	100uF	20%	25V
C506	1-161-494-00	CERAMIC	0.022uF		25V
C701	1-124-887-00	ELECT	3300uF	20%	16V
C702	1-124-887-00	ELECT	3300uF	20%	16V
C703	1-126-101-11	ELECT	100uF	20%	16V
C704	1-124-473-11	ELECT	1000uF	20%	10V
C705	1-124-473-11	ELECT	1000uF	20%	10V
C706	1-126-161-11	ELECT	2.2uF	20%	50V
C707	1-124-472-11	ELECT	470uF	20%	10V
C708	1-126-301-11	ELECT	1uF	20%	50V
C709	1-126-301-11	ELECT	1uF	20%	50V
C710	1-126-301-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description			Remark
C711	1-101-005-00	CERAMIC	22000PF		50V
C712	1-126-867-11	ELECT	33uF	20%	50V
C720	1-162-215-31	CERAMIC	47PF	5%	50V
C801	1-126-161-11	ELECT	2.2uF	20%	50V
C802	1-162-288-31	CERAMIC	330PF	10%	50V
C803	1-136-165-00	FILM	0.1uF	5%	50V
C804	1-162-288-31	CERAMIC	330PF	10%	50V
C805	1-136-165-00	FILM	0.1uF	5%	50V
C806	1-126-059-11	ELECT	10uF	20%	50V
C807	1-126-059-11	ELECT	10uF	20%	50V
C808	1-101-005-00	CERAMIC	22000PF		50V
C809	1-124-994-11	ELECT	100uF	20%	10V
C810	1-136-165-00	FILM	0.1uF	5%	50V
C811	1-161-379-00	CERAMIC	0.01uF	20%	25V
C813	1-126-161-11	ELECT	2.2uF	20%	50V
		< CONNECTOR >			
* CN501	1-580-784-11	CONNECTOR, BOARD TO BOARD			
* CN502	1-580-784-11	CONNECTOR, BOARD TO BOARD			
* CN503	1-580-784-11	CONNECTOR, BOARD TO BOARD			
* CN504	1-566-858-11	SOCKET, CONNECTOR 11P			
* CN505	1-568-828-11	SOCKET, CONNECTOR 9P			
* CN506	1-568-828-11	SOCKET, CONNECTOR 9P			
* CN507	1-568-832-11	SOCKET, CONNECTOR 13P			
* CN701	1-566-859-11	SOCKET, CONNECTOR 15P			
* CN801	1-568-836-11	SOCKET, CONNECTOR 17P			
* CN802	1-564-340-00	PIN, CONNECTOR 6P			
* CN803	1-564-341-11	PIN, CONNECTOR 7P			
		< DIODE >			
D101	8-719-987-63	DIODE	1N4148M		
D102	8-719-987-63	DIODE	1N4148M		
D201	8-719-987-63	DIODE	1N4148M		
D202	8-719-987-63	DIODE	1N4148M		
D401	8-719-933-54	DIODE	HZS9A2L		
D402	8-719-933-54	DIODE	HZS9A2L		
D501	8-719-987-63	DIODE	1N4148M		
D504	8-719-987-63	DIODE	1N4148M		
D701	8-719-200-77	DIODE	10E2N		
D702	8-719-200-77	DIODE	10E2N		
D703	8-719-200-77	DIODE	10E2N		
D704	8-719-200-77	DIODE	10E2N		
D705	8-719-200-77	DIODE	10E2N		
D706	8-719-200-77	DIODE	10E2N		
D707	8-719-933-33	DIODE	HZS6A1L		
D708	8-719-933-33	DIODE	HZS6A1L		
D709	8-719-000-78	DIODE	UZL-7L2		
D801	8-719-933-54	DIODE	HZS9A2L		

Ref. No.	Part No.	Description	Remark
D802	8-719-987-63	DIODE 1N4148M	
D803	8-719-987-63	DIODE 1N4148M	
D804	8-719-987-63	DIODE 1N4148M	
D807	8-719-987-63	DIODE 1N4148M	
D808	8-719-987-63	DIODE 1N4148M	
D809	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC501	8-759-140-53	IC UPD4053BC	
IC502	8-759-634-51	IC M5218AP	
IC503	8-752-059-55	IC CXA1331S	
IC504	8-752-055-61	IC CXA1578P	
IC505	8-759-945-58	IC RC4558P	
IC506	8-759-000-49	IC MC14066BCP	
IC507	8-759-945-58	IC RC4558P	
IC701	8-759-945-58	IC RC4558P	
IC801	8-759-635-94	IC M50925SP-482SP	
IC802	8-759-207-05	IC TA7272P	
IC803	8-759-000-48	IC MC14052BCP	
IC804	8-759-240-71	IC TC4071BP	
IC805	8-759-067-45	IC M50944-180SP	
		< COIL >	
L501	1-408-080-00	INDUCTOR 100uH	
		< LOW PASS FILTER >	
LPF101	1-236-087-11	FILTER, LOW PASS	
LPF201	1-236-087-11	FILTER, LOW PASS	
		< TRANSISTOR >	
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q102	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
Q202	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q501	8-729-900-61	TRANSISTOR DTA114ES	
Q502	8-729-900-61	TRANSISTOR DTA114ES	
Q503	8-729-900-80	TRANSISTOR DTC114ES	
Q504	8-729-900-80	TRANSISTOR DTC114ES	
Q505	8-729-900-61	TRANSISTOR DTA114ES	
Q506	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q510	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q511	8-729-900-80	TRANSISTOR DTC114ES	
Q512	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q514	8-729-900-74	TRANSISTOR DTC143TS	
Q515	8-729-900-61	TRANSISTOR DTA114ES	
Q516	8-729-900-80	TRANSISTOR DTC114ES	
Q517	8-729-900-61	TRANSISTOR DTA114ES	
Q601	8-729-900-65	TRANSISTOR DTA144ES	

Ref. No.	Part No.	Description	Remark
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q702	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q704	8-729-209-15	TRANSISTOR 2SD2012	
Q705	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q801	8-729-900-80	TRANSISTOR DTC114ES	
Q802	8-729-900-61	TRANSISTOR DTA114ES	
Q803	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q804	8-729-900-89	TRANSISTOR DTC144ES	
Q805	8-729-900-65	TRANSISTOR DTA144ES	
Q806	8-729-900-61	TRANSISTOR DTA114ES	
Q810	8-729-900-61	TRANSISTOR DTA114ES	
Q813	8-729-900-61	TRANSISTOR DTA114ES	
Q814	8-729-900-89	TRANSISTOR DTC144ES	
Q815	8-729-801-84	TRANSISTOR 2SB1013-4	
Q816	8-729-801-84	TRANSISTOR 2SB1013-4	
		< RESISTOR >	
R101	1-249-421-11	CARBON 2.2K 5% 1/4W	
R102	1-249-423-11	CARBON 3.3K 5% 1/4W	
R103	1-247-887-00	CARBON 220K 5% 1/4W	
R106	1-249-421-11	CARBON 2.2K 5% 1/4W	
R107	1-249-437-11	CARBON 47K 5% 1/4W	
R109	1-249-423-11	CARBON 3.3K 5% 1/4W	
R110	1-249-428-11	CARBON 8.2K 5% 1/4W	
R112	1-247-864-11	CARBON 24K 5% 1/4W	
R113	1-249-414-11	CARBON 560 5% 1/4W	
R115	1-249-421-11	CARBON 2.2K 5% 1/4W	
R117	1-249-431-11	CARBON 15K 5% 1/4W	
R118	1-249-421-11	CARBON 2.2K 5% 1/4W	
R119	1-249-429-11	CARBON 10K 5% 1/4W	
R120	1-249-421-11	CARBON 2.2K 5% 1/4W	
R121	1-249-417-11	CARBON 1K 5% 1/4W	
R122	1-249-436-11	CARBON 39K 5% 1/4W	
R123	1-249-432-11	CARBON 18K 5% 1/4W	
R124	1-249-410-11	CARBON 270 5% 1/4W	
R126	1-249-417-11	CARBON 1K 5% 1/4W	
R127	1-249-429-11	CARBON 10K 5% 1/4W	
R201	1-249-421-11	CARBON 2.2K 5% 1/4W	
R202	1-249-423-11	CARBON 3.3K 5% 1/4W	
R203	1-247-887-00	CARBON 220K 5% 1/4W	
R206	1-249-421-11	CARBON 2.2K 5% 1/4W	
R207	1-249-437-11	CARBON 47K 5% 1/4W	
R209	1-249-423-11	CARBON 3.3K 5% 1/4W	
R210	1-249-428-11	CARBON 8.2K 5% 1/4W	
R212	1-247-864-11	CARBON 24K 5% 1/4W	
R213	1-249-414-11	CARBON 560 5% 1/4W	
R215	1-249-421-11	CARBON 2.2K 5% 1/4W	

MAIN

Ref. No.	Part No.	Description				Remark
R217	1-249-431-11	CARBON	15K	5%	1/4W	
R218	1-249-421-11	CARBON	2.2K	5%	1/4W	
R219	1-249-429-11	CARBON	10K	5%	1/4W	
R220	1-249-421-11	CARBON	2.2K	5%	1/4W	
R221	1-249-417-11	CARBON	1K	5%	1/4W	
R222	1-249-436-11	CARBON	39K	5%	1/4W	
R223	1-249-432-11	CARBON	18K	5%	1/4W	
R224	1-249-410-11	CARBON	270	5%	1/4W	
R226	1-249-417-11	CARBON	1K	5%	1/4W	
R227	1-249-429-11	CARBON	10K	5%	1/4W	
R501	1-249-405-11	CARBON	100	5%	1/4W	
R502	1-249-405-11	CARBON	100	5%	1/4W	
R503	1-249-434-11	CARBON	27K	5%	1/4W	
R504	1-249-429-11	CARBON	10K	5%	1/4W	
R505	1-249-413-11	CARBON	470	5%	1/4W	
R506	1-247-864-11	CARBON	24K	5%	1/4W	
R507	1-247-887-00	CARBON	220K	5%	1/4W	
R510	1-249-429-11	CARBON	10K	5%	1/4W	
R511	1-249-429-11	CARBON	10K	5%	1/4W	
R512	1-247-887-00	CARBON	220K	5%	1/4W	
R513	1-249-429-11	CARBON	10K	5%	1/4W	
R514	1-249-441-11	CARBON	100K	5%	1/4W	
R515	1-249-428-11	CARBON	8.2K	5%	1/4W	
R516	1-249-423-11	CARBON	3.3K	5%	1/4W	
R517	1-249-441-11	CARBON	100K	5%	1/4W	
R518	1-249-417-11	CARBON	1K	5%	1/4W	
R519	1-249-441-11	CARBON	100K	5%	1/4W	
R520	1-249-429-11	CARBON	10K	5%	1/4W	
R521	1-249-441-11	CARBON	100K	5%	1/4W	
R522	1-249-433-11	CARBON	22K	5%	1/4W	
R524	1-249-417-11	CARBON	1K	5%	1/4W	
R526	1-249-429-11	CARBON	10K	5%	1/4W	
R527	1-249-417-11	CARBON	1K	5%	1/4W	
R528	1-249-437-11	CARBON	47K	5%	1/4W	
R534	1-247-882-11	CARBON	130K	5%	1/4W	
R535	1-249-440-11	CARBON	82K	5%	1/4W	
R536	1-249-405-11	CARBON	100	5%	1/4W	
R537	1-249-433-11	CARBON	22K	5%	1/4W	
R538	1-249-425-11	CARBON	4.7K	5%	1/4W	
R539	1-249-414-11	CARBON	560	5%	1/4W	
R540	1-249-433-11	CARBON	22K	5%	1/4W	
R541	1-249-407-11	CARBON	150	5%	1/4W	
R543	1-249-433-11	CARBON	22K	5%	1/4W	
R601	1-247-858-11	CARBON	13K	5%	1/4W	
R602	1-247-844-11	CARBON	3.6K	5%	1/4W	
R603	1-249-417-11	CARBON	1K	5%	1/4W	
R604	1-247-862-11	CARBON	20K	5%	1/4W	
R605	1-249-429-11	CARBON	10K	5%	1/4W	
R701	1-249-413-11	CARBON	470	5%	1/4W	
R702	1-249-413-11	CARBON	470	5%	1/4W	
R703	1-249-422-11	CARBON	2.7K	5%	1/4W	
R704	1-247-858-11	CARBON	13K	5%	1/4W	
R705	1-249-429-11	CARBON	10K	5%	1/4W	
R706	1-249-417-11	CARBON	1K	5%	1/4W	
R707	1-247-850-11	CARBON	6.2K	5%	1/4W	
R708	1-249-422-11	CARBON	2.7K	5%	1/4W	
R709	1-249-429-11	CARBON	10K	5%	1/4W	
R710	1-249-429-11	CARBON	10K	5%	1/4W	
R711	1-249-421-11	CARBON	2.2K	5%	1/4W	
R712	1-249-432-11	CARBON	18K	5%	1/4W	
R713	1-249-423-11	CARBON	3.3K	5%	1/4W	
R714	1-249-433-11	CARBON	22K	5%	1/4W	
R715	1-249-435-11	CARBON	33K	5%	1/4W	
R801	1-249-429-11	CARBON	10K	5%	1/4W	
R802	1-247-903-00	CARBON	1M	5%	1/4W	
R803	1-249-434-11	CARBON	27K	5%	1/4W	
R804	1-249-434-11	CARBON	27K	5%	1/4W	
R805	1-249-435-11	CARBON	33K	5%	1/4W	
R806	1-249-435-11	CARBON	33K	5%	1/4W	
R807	1-249-434-11	CARBON	27K	5%	1/4W	
R808	1-247-895-00	CARBON	470K	5%	1/4W	
R809	1-247-895-00	CARBON	470K	5%	1/4W	
R810	1-249-434-11	CARBON	27K	5%	1/4W	
R811	1-249-435-11	CARBON	33K	5%	1/4W	
R812	1-249-435-11	CARBON	33K	5%	1/4W	
R813	1-249-421-11	CARBON	2.2K	5%	1/4W	
R814	1-249-421-11	CARBON	2.2K	5%	1/4W	
R815	1-249-421-11	CARBON	2.2K	5%	1/4W	
R816	1-249-421-11	CARBON	2.2K	5%	1/4W	
R817	1-249-393-11	CARBON	10	5%	1/4W	
R818	1-249-435-11	CARBON	33K	5%	1/4W	
R821	1-247-903-00	CARBON	1M	5%	1/4W	
R822	1-249-435-11	CARBON	33K	5%	1/4W	
R823	1-249-425-11	CARBON	4.7K	5%	1/4W	
R824	1-249-435-11	CARBON	33K	5%	1/4W	
R825	1-249-429-11	CARBON	10K	5%	1/4W	
R826	1-249-420-11	CARBON	1.8K	5%	1/4W	
R827	1-249-435-11	CARBON	33K	5%	1/4W	
R828	1-249-433-11	CARBON	22K	5%	1/4W	
R829	1-249-433-11	CARBON	22K	5%	1/4W	
R830	1-249-433-11	CARBON	22K	5%	1/4W	
R831	1-249-421-11	CARBON	2.2K	5%	1/4W	
R834	1-249-425-11	CARBON	4.7K	5%	1/4W	
R835	1-249-435-11	CARBON	33K	5%	1/4W	
R836	1-249-435-11	CARBON	33K	5%	1/4W	
R837	1-249-433-11	CARBON	22K	5%	1/4W	
R838	1-249-422-11	CARBON	2.7K	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R839	1-249-405-11	CARBON	100	5%	1/4W	
R842	1-249-425-11	CARBON	4.7K	5%	1/4W	
R843	1-247-862-11	CARBON	20K	5%	1/4W	
R844	1-247-862-11	CARBON	20K	5%	1/4W	
R845	1-249-425-11	CARBON	4.7K	5%	1/4W	
R846	1-249-415-11	CARBON	680	5%	1/4W	
R847	1-249-429-11	CARBON	10K	5%	1/4W	
R848	1-249-415-11	CARBON	680	5%	1/4W	
R849	1-249-429-11	CARBON	10K	5%	1/4W	
R851	1-249-437-11	CARBON	47K	5%	1/4W	
R852	1-247-866-11	CARBON	30K	5%	1/4W	
R853	1-247-866-11	CARBON	30K	5%	1/4W	
R854	1-249-437-11	CARBON	47K	5%	1/4W	
R855	1-247-872-11	CARBON	51K	5%	1/4W	
R856	1-247-872-11	CARBON	51K	5%	1/4W	
R857	1-247-872-11	CARBON	51K	5%	1/4W	
R858	1-247-872-11	CARBON	51K	5%	1/4W	
R859	1-249-405-11	CARBON	100	5%	1/4W	
R860	1-249-405-11	CARBON	100	5%	1/4W	
R870	1-247-688-11	CARBON	2.2	5%	1/4W	
R871	1-247-688-11	CARBON	2.2	5%	1/4W	
		< VARIABLE RESISTOR >				
RV101	1-238-600-11	RES, ADJ, CARBON 10K				
RV201	1-238-600-11	RES, ADJ, CARBON 10K				
		< VIBRATOR >				
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)				
X802	1-577-358-21	VIBRATOR, CERAMIC (4MHz)				
***						
*	A-2006-399-A	MD-A BOARD, COMPLETE ********************				
		< CAPACITOR >				
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C12	1-136-157-00	FILM	0.022uF	5%	50V	
C13	1-124-234-00	ELECT	22uF	20%	16V	
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C22	1-136-157-00	FILM	0.022uF	5%	50V	
C23	1-124-234-00	ELECT	22uF	20%	16V	
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C31	1-124-234-00	ELECT	22uF	20%	16V	
C32	1-124-234-00	ELECT	22uF	20%	16V	
C72	1-124-499-11	ELECT, NONPOLAR 1uF		20%	50V	

Ref. No.	Part No.	Description				Remark
		< CONNECTOR >				
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P				
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P				
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P				
		< IC >				
IC31	8-759-106-02	IC uPC4570G2				
		< JUMPER >				
JW1	1-216-295-00	METAL CHIP	0	5%	1/10W	
JW51	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W	
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W	
		< TRANSISTOR >				
Q71	8-729-602-36	TRANSISTOR 2SA1602				
		< RESISTOR >				
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R12	1-216-025-00	METAL CHIP	100	5%	1/10W	
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W	
R22	1-216-025-00	METAL CHIP	100	5%	1/10W	
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W	
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R31	1-216-033-00	METAL CHIP	220	5%	1/10W	
R32	1-216-033-00	METAL CHIP	220	5%	1/10W	
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV11	1-238-012-11	RES, ADJ, CARBON 1K				
RV21	1-238-012-11	RES, ADJ, CARBON 1K				
RV71	1-238-016-11	RES, ADJ, CARBON 10K				
RV72	1-238-016-11	RES, ADJ, CARBON 10K				
***						
*	A-2006-400-A	MD-B BOARD, COMPLETE ********************				
		< CAPACITOR >				
C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	
C12	1-136-157-00	FILM	0.022uF	5%	50V	
C13	1-124-234-00	ELECT	22uF	20%	16V	
C14	1-136-273-91	FILM	75PF	5%	630V	

MD-B

Ref. No.	Part No.	Description			Remark
C15	1-164-080-11	CERAMIC	390PF	10%	50V
C17	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C24	1-136-273-91	FILM	75PF	5%	630V
C25	1-164-080-11	CERAMIC	390PF	10%	50V
C27	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C33	1-124-234-00	ELECT	22uF	20%	16V
C51	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C52	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C53	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C54	1-136-559-11	FILM	0.0047uF	5%	630V
C56	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V

< CONNECTOR >

Ref. No.	Part No.	Description
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD
* CNJ72	1-580-411-11	SOCKET, CONNECTOR 4P
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P

< DIODE >

Ref. No.	Part No.	Description	
D31	8-719-988-62	DIODE	1SS355

< IC >

Ref. No.	Part No.	Description	
IC31	8-759-106-02	IC	uPC4570G2

< JUMPER >

Ref. No.	Part No.	Description			Remark
JW1	1-216-296-00	METAL CHIP	0	5%	1/8W
JW2	1-216-295-00	METAL CHIP	0	5%	1/10W
JW3	1-216-295-00	METAL CHIP	0	5%	1/10W
JW4	1-216-295-00	METAL CHIP	0	5%	1/10W
JW5	1-216-295-00	METAL CHIP	0	5%	1/10W
JW6	1-216-295-00	METAL CHIP	0	5%	1/10W
JW7	1-216-295-00	METAL CHIP	0	5%	1/10W
JW52	1-216-296-00	METAL CHIP	0	5%	1/8W
JW53	1-216-296-00	METAL CHIP	0	5%	1/8W
JW54	1-216-296-00	METAL CHIP	0	5%	1/8W
JW55	1-216-296-00	METAL CHIP	0	5%	1/8W
JW56	1-216-296-00	METAL CHIP	0	5%	1/8W
JW57	1-216-296-00	METAL CHIP	0	5%	1/8W
JW58	1-216-296-00	METAL CHIP	0	5%	1/8W
JW59	1-216-296-00	METAL CHIP	0	5%	1/8W
JW60	1-216-296-00	METAL CHIP	0	5%	1/8W
JW61	1-216-296-00	METAL CHIP	0	5%	1/8W

< COIL >

Ref. No.	Part No.	Description	
L11	1-410-780-11	INDUCTOR	27mH
L21	1-410-780-11	INDUCTOR	27mH

< TRANSISTOR >

Ref. No.	Part No.	Description	
Q51	8-729-808-01	TRANSISTOR	2SD1622-S
Q52	8-729-808-01	TRANSISTOR	2SD1622-S
Q53	8-729-808-01	TRANSISTOR	2SD1622-S
Q71	8-729-602-36	TRANSISTOR	2SA1602

< RESISTOR >

Ref. No.	Part No.	Description			Remark
R11	1-216-099-00	METAL CHIP	120K	5%	1/10W
R12	1-216-025-00	METAL CHIP	100	5%	1/10W
R13	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R14	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R15	1-249-430-11	CARBON	12K	5%	1/4W
R21	1-216-099-00	METAL CHIP	120K	5%	1/10W
R22	1-216-025-00	METAL CHIP	100	5%	1/10W
R23	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R24	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R25	1-249-430-11	CARBON	12K	5%	1/4W
R31	1-216-033-00	METAL CHIP	220	5%	1/10W
R32	1-216-033-00	METAL CHIP	220	5%	1/10W
R41	1-249-393-11	CARBON	10	5%	1/4W
R42	1-249-393-11	CARBON	10	5%	1/4W
R51	1-216-075-00	METAL CHIP	12K	5%	1/10W
R52	1-216-075-00	METAL CHIP	12K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-00	METAL CHIP	47K	5%	1/10W
R74	1-216-089-00	METAL CHIP	47K	5%	1/10W

< VARIABLE RESISTOR >

Ref. No.	Part No.	Description
RV11	1-238-012-11	RES, ADJ, CARBON 1K
RV12	1-238-551-11	RES, ADJ, CARBON 220K
RV21	1-238-012-11	RES, ADJ, CARBON 1K
RV22	1-238-551-11	RES, ADJ, CARBON 220K
RV71	1-238-016-11	RES, ADJ, CARBON 10K

MD-B **PANEL** **RECVOL**

Ref. No.	Part No.	Description	Remark
RV72	1-238-016-11	RES, ADJ, CARBON 10K	
		< RELAY >	
RY31	1-515-726-11	RELAY	
		< COIL >	
T51	1-406-419-11	COIL, BIAS OSCILLATION	

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Ref. No.	Part No.	Description	Remark
*	A-2006-747-A	PANEL BOARD, COMPLETE *********************	
*	3-362-478-21	HOLDER (T), LED	
*	4-921-941-01	CUSHION (FL)	
*	4-933-646-01	HOLDER (TC), FL TUBE	
		< CAPACITOR >	
C406	1-162-292-31	CERAMIC 680PF 10% 50V	
C407	1-162-292-31	CERAMIC 680PF 10% 50V	
C408	1-162-292-31	CERAMIC 680PF 10% 50V	
C901	1-161-379-00	CERAMIC 0.01uF 20% 25V	
C902	1-161-379-00	CERAMIC 0.01uF 20% 25V	
		< CONNECTOR >	
* CN901	1-568-836-11	SOCKET, CONNECTOR 17P	
		< DIODE >	
D901	8-719-301-38	LED SEL2210S-C	
D902	8-719-301-38	LED SEL2210S-C	
D903	8-719-301-38	LED SEL2210S-C	
D904	8-719-301-38	LED SEL2210S-C	
D906	8-719-987-63	DIODE 1N4148M	
		< FLUORESCENT INDICATOR >	
FL901	1-519-741-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC901	8-759-321-92	IC HD614022S	
		< TRANSISTOR >	
Q901	8-729-900-61	TRANSISTOR DTA114ES	
		< RESISTOR >	
R401	1-249-405-11	CARBON 100 5% 1/4W	
R402	1-249-405-11	CARBON 100 5% 1/4W	
R403	1-249-405-11	CARBON 100 5% 1/4W	
R901	1-249-407-11	CARBON 150 5% 1/4W	
R902	1-249-409-11	CARBON 220 5% 1/4W	
R904	1-249-413-11	CARBON 470 5% 1/4W	
R905	1-249-415-11	CARBON 680 5% 1/4W	
R906	1-249-417-11	CARBON 1K 5% 1/4W	
R907	1-249-420-11	CARBON 1.8K 5% 1/4W	
R909	1-249-407-11	CARBON 150 5% 1/4W	
R910	1-249-409-11	CARBON 220 5% 1/4W	
R911	1-249-411-11	CARBON 330 5% 1/4W	
R912	1-249-418-11	CARBON 1.2K 5% 1/4W	
R927	1-249-411-11	CARBON 330 5% 1/4W	
R928	1-249-411-11	CARBON 330 5% 1/4W	
R929	1-249-411-11	CARBON 330 5% 1/4W	
R930	1-249-411-11	CARBON 330 5% 1/4W	
R931	1-247-903-00	CARBON 1M 5% 1/4W	
R932	1-249-411-11	CARBON 330 5% 1/4W	
		< SWITCH >	
S901	1-554-303-21	SWITCH, TACTILE (HIGH SPEED)	
S902	1-554-303-21	SWITCH, TACTILE (NORMAL SPEED)	
S905	1-554-303-21	SWITCH, TACTILE (RESET)	
S906	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S907	1-554-303-21	SWITCH, TACTILE (A/B)	
S909	1-554-303-21	SWITCH, TACTILE (C FADE)	
S910	1-554-303-21	SWITCH, TACTILE (FADE)	
S911	1-554-303-21	SWITCH, TACTILE (EDIT)	
S912	1-554-303-21	SWITCH, TACTILE (TIME)	
		< VIBRATOR >	
X901	1-567-775-11	VIBRATOR, CERAMIC (4.19MHz)	

****

Ref. No.	Part No.	Description	Remark
*	1-643-528-11	RECVOL BOARD ************	
		< CAPACITOR >	
C814	1-164-159-11	CERAMIC 0.1uF 50V	
		< CONNECTOR >	
* CN508	1-568-832-11	SOCKET, CONNECTOR 13P	
		< DIODE >	
D805	8-719-987-63	DIODE 1N4148M	
D806	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC806	8-759-820-62	IC LB1639	
		< TRANSISTOR >	
Q807	8-729-900-65	TRANSISTOR DTA144ES	

RECVOL SW-A SW-B

Ref. No.	Part No.	Description	Remark
Q808	8-729-900-89	TRANSISTOR DTC144ES	
		< RESISTOR >	
R125	1-249-429-11	CARBON 10K 5% 1/4W	
R225	1-249-429-11	CARBON 10K 5% 1/4W	
R832	1-249-412-11	CARBON 390 5% 1/4W	
R833	1-249-411-11	CARBON 330 5% 1/4W	
		< VARIABLE RESISTOR >	
RV301	1-241-891-11	RES, VAR, CARBON 20KX3 (REC LEVEL)	

****

Ref. No.	Part No.	Description	Remark
*	1-634-841-14	SW-A BOARD **********	
	3-343-419-01	HOLDER (S SENSER A)	
		< CONNECTOR >	
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5% 1/4W	
R85	1-249-408-11	CARBON 180 5% 1/4W	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (70EQ)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	

****

Ref. No.	Part No.	Description	Remark
*	1-634-841-14	SW-B BOARD **********	
	3-343-419-01	HOLDER (S SENSER A)	
		< CONNECTOR >	
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81	8-719-710-03	DIODE NJL5165K-B	
		< RESISTOR >	
R81	1-249-414-11	CARBON 560 5% 1/4W	
R82	1-247-818-11	CARBON 300 5% 1/4W	
R83	1-247-834-11	CARBON 1.3K 5% 1/4W	
R84	1-249-417-11	CARBON 1K 5% 1/4W	
R85	1-249-408-11	CARBON 180 5% 1/4W	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP)	
S82	1-571-281-21	SWITCH, LEAF (70EQ)	
S83	1-571-281-21	SWITCH, LEAF (METAL)	
S84	1-571-281-21	SWITCH, LEAF (REC A)	
S85	1-571-281-21	SWITCH, LEAF (REC B)	
S86	1-571-281-21	SWITCH, LEAF (HALF)	

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
* 5	1-574-726-11	WIRE, FLAT TYPE (13 CORE)	
6	1-690-907-11	WIRE (FLAT TYPE) (17 CORE)	
69	1-690-906-11	WIRE (FLAT TYPE) (9 CORE)	
121	1-638-983-11	MOTOR FLEXIBLE BOARD	
HP901	A-2003-837-A	BASE ASSY, HEAD (PB) (DECK A)	
HRPE901	A-2003-838-A	BASE ASSY, HEAD (REC/PB/ERASE) (DECK B)	
M901A	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK A)	
M901B	X-3359-417-1	MOTOR ASSY (CAPSTAN) (DECK B)	
M902A	X-3363-501-1	MOTOR ASSY (REEL) (DECK A)	
M902B	X-3363-501-1	MOTOR ASSY (REEL) (DECK B)	

****

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remark
*	3-350-154-01	CUSHION	
	4-920-940-01	SHEET (A), PROTECTION	

****

HARDWARE LIST

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-621-773-93	SCREW (PANEL 2.6 TP2)
#3	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S
#4	7-621-775-00	SCREW +B 2.6X3
#5	7-627-556-08	SCREW +P 2.6X2.8

9-956-997-11

Sony Corporation
Audio Group

English
92B1870-1
Printed in Japan

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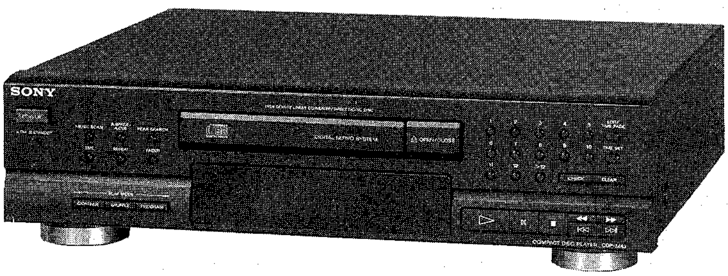
Published by Customer Relations and Service Group

CDP-M43/M54

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model
CDP-M43

AEP Model
UK Model
E Model
CDP-M54



CDP-M43 is the CD player section in
LBT-D507/ D607/ D707,
LBT-A50/A60/A70 series

Photo : CDP-M43

Model Name Using Similar Mechanism	CDP-497/597
CD Mechanism Type	CDM-14L-5BD8A
Optical Pick-Up Block Type	BU-5BD8A

SPECIFICATIONS

Compact disc player	
Frequency response	2 Hz to 20 kHz ±0.5 dB
Signal-to-noise ratio	More than 105 dB··········CDP-M54
	More than 100 dB··········CDP-M43
Dynamic range	More than 98 dB ···········CDP-M54
	More than 92 dB ···········CDP-M43
Harmonic distortion	Less than 0.003%··········CDP-M54
	Less than 0.004%··········CDP-M43
Channel separation	More than 102 dB··········CDP-M54
	More than 95 dB ···········CDP-M43
Outputs	
LINE OUT (FIXED)(phono jacks)	
	Output level 2 V(at 50 kilohms)
	Load impedance over 10 kilohms
LINE OUT (VARIABLE)(phono jacks)···········CDP-M54	
	Output level max. 2 V(at 50 kilohms)
	Load impedance over 50 kilohms
PHONES (stereo phone jack)···········CDP-M54	
	Output level max. 10 mW
	Load impedance 32 ohms
General	
Power requirements	European model: 220 – 230V AC, 50/60Hz UK, Australian model: 240 V AC, 50Hz E model: 110 – 120, 220 – 240V AC, 50/60Hz
Power consumption	12 W
Dimensions (approx., including projections)	
	355 × 95 × 325 mm(w/h/d)
	($14 \times 3\frac{3}{4} \times 12\frac{7}{8}$ inches)
Weight (approx.)	3.2 kg(7 lbs 1 oz)

Remote commander	(RM-D597)···········CDP-M54
Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions (approx., including projections)	
	40 × 20 × 175 mm (w/h/d)
	($1\frac{5}{8} \times \frac{13}{16} \times 7$ inches)
Weight (approx.)	95 g(4 oz)
Supplied accessories	
Audio cord	(1)(2 Phono plugs-2 phono plugs)
Remote commander	(1)···········CDP-M54
Sony SUM-3 (NS) batteries	(2)···········CDP-M54

Design and specifications are subject to change without notice.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This Compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

MICROFILM

COMPACT DISC PLAYER

SONY®

TABLE OF CONTENTS

Section Title Page

Specifications ········· 1

1. GENERAL
  1-1 Identifying the Parts ········· 4

2. DISASSEMBLY ········· 5

3. ELECTRICAL BLOCK CHECKING ········· 6

4. DIAGRAMS
  4-1 Block Diagram ········· 8
  4-2 Circuit Boards Location ········· 10
  4-3 Semiconductor Lead Layouts ········· 11
  4-4 Printed Wiring Boards ········· 12
  4-5 Schematic Diagram ········· 15
  4-6 IC Block Diagrams ········· 20

5. EXPLODED VIEWS
  5-1 cabinet section ········· 22
  5-2 MD section (CDM14-5BD8A) ········· 24
  5-3 Optical Pick-up Block (BU-5BD8A) ········· 25

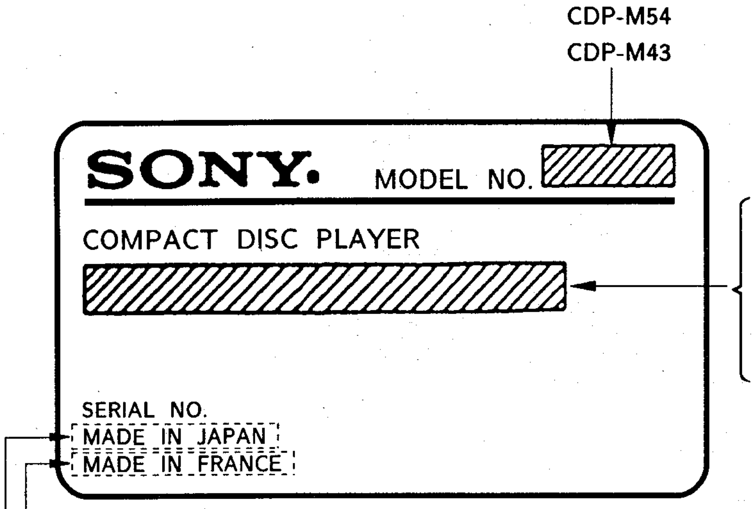
6. ELECTRICAL PARTS LIST ········· 26

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

- Specification Label -



AEP, Italian Model :
AC 220 - 230V ~ 50/60Hz
E, Saudi Alabia Model :
AC 110 - 120, 220 - 240V, ~ 50/60Hz 12W
UK, Australian Model :
AC 240V ~ 50/60Hz

Identify the set with the indication of "MADE IN FRANCE" here.
Identify the set with the indication of "MADE IN JAPAN" here.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

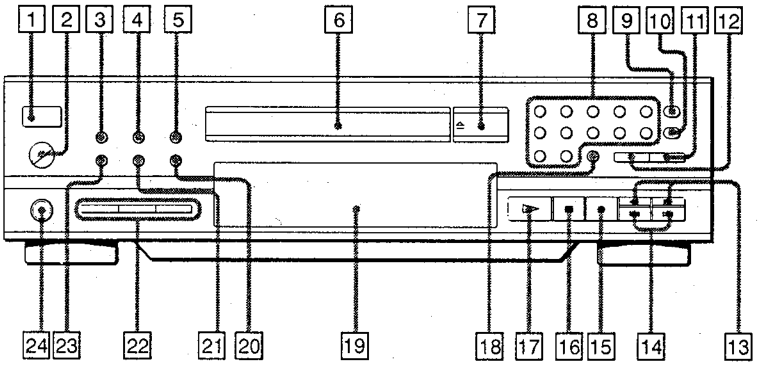
The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30cm away from the objective lens.

SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1 IDENTIFYING THE PARTS

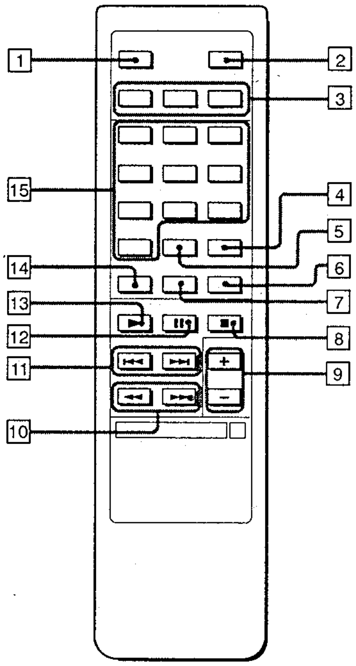
CDP-M54 model



Front Panel

1 POWER switch (20)
2 LINE OUT/PHONE LEVEL control (14)
3 MUSIC SCAN button (40)
4 A.SPACE/A.CUE button (28, 62)
5 PEAK SEARCH button (60)
6 Disc tray (20)
7 ⏏ OPEN/CLOSE button (20)
8 Numeric buttons (24, 38, 48, 52)
9 EDIT/TIME FADE button (52, 58)
10 TIME SET button (54, 58)
11 CLEAR (program clear) button (36, 42)
12 CHECK (program check) button (36)
13 ◀◀/▶▶(manual search) buttons (26, 46)
14 ⏮/⏭ (AMS*) buttons (24, 48)
15 ■ (stop) button (22)
16 ❚❚ (pause) button (22)
17 ▶ (play) button (22)
18 > 12 (over 12) button (24)
19 Display window (20)
20 FADER button (46)
21 REPEAT button (44)
22 Play mode buttons
    CONTINUE button (30, 34, 38, 56)
    SHUFFLE button (30, 34, 38, 56)
    PROGRAM button (34, 48)
23 TIME button (22)
24 PHONES jack

* AMS is the abbreviation of Automatic Music Sensor.



Remote Commander ……CDP-M54

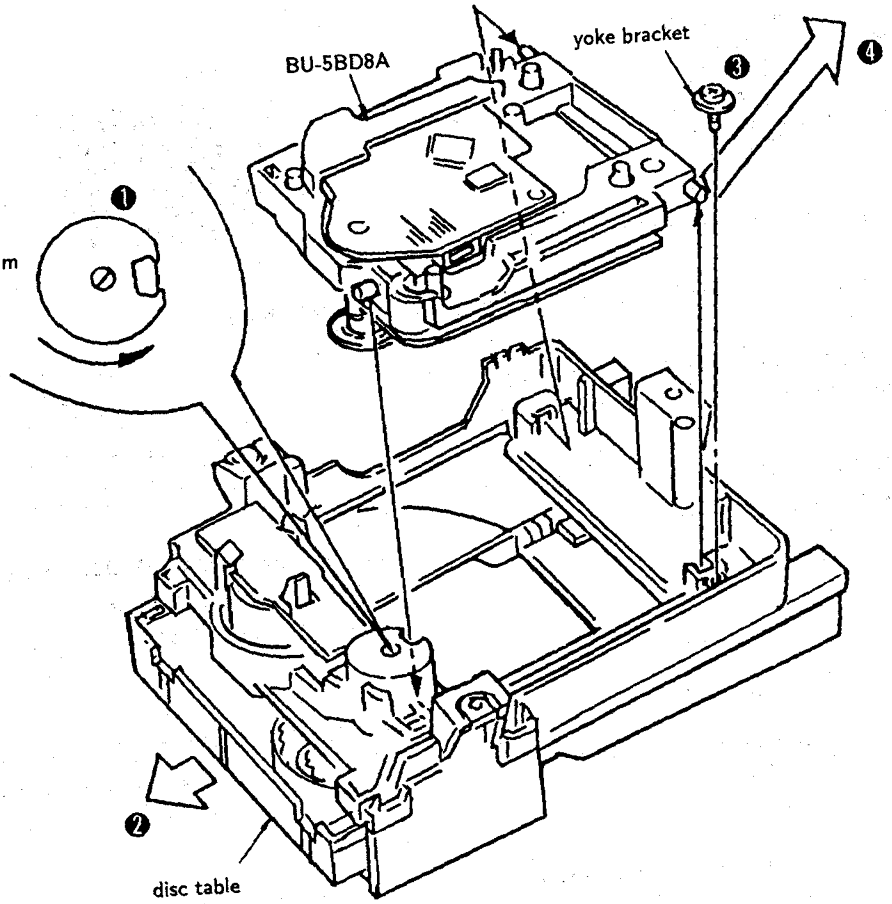
1 A. SPACE/A. CUE button (28, 62)
2 MUSIC SCAN button (40)
3 Play mode buttons
    CONTINUE button (30, 34, 38, 56)
    SHUFFLE button (30, 34, 38, 56)
    PROGRAM button (34, 48)
4 CLEAR (program clear) button (36, 42)
5 > 10 (over 10) button (24)
6 FADER button (46)
7 REPEAT button (44)
8 ■ (stop) button (22)
9 LINE OUT LEVEL buttons (14)
10 ◀◀/▶▶ (manual search) buttons (26, 46)
11 ⏮/⏭ (AMS*) buttons (24, 48)
12 ❚❚ (pause) button (22)
13 ▶ (play) button (22)
14 TIME button (22)
15 Numeric buttons (24, 38, 48, 52)

* AMS is the abbreviation of Automatic Music Sensor.

SECTION 2
DISASSEMBLY

Note :
Follow the disassembly procedure in the nomerical order given.

❶ Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.
❷ Take off the disc table.
❸ Remove the yoke bracket.
❹ Remove the MD (BU-5BD8A) to the direction of arrow.

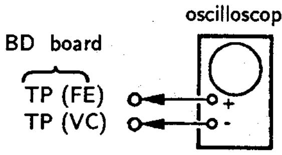

BU-5BD8A
yoke bracket
❸
❹
❶
cam
❷
disc table

SECTION 3
ELECTRICAL BLOCK CHECKING

Note :

1. CD Block basically constructed to operate with-out adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ im-pedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

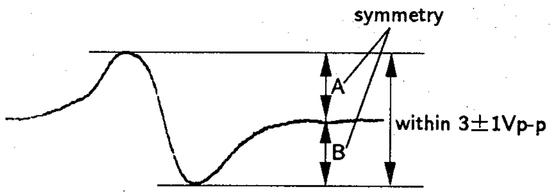
S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

S curve waveform

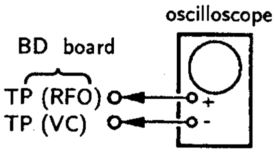


5. After check, remove the lead wire connected in step 2.

Note : • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



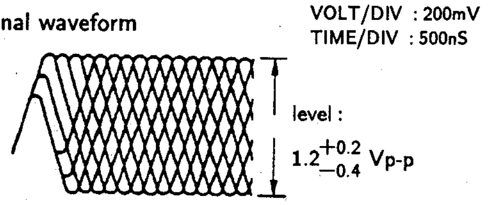
Procedure :

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

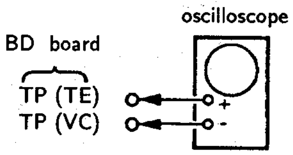
Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform



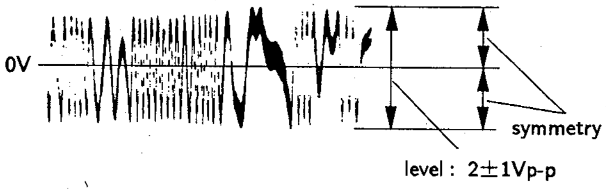
E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TEI) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is sym-metrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

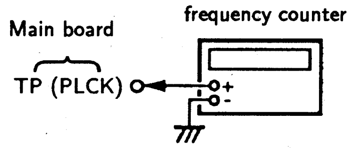


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.

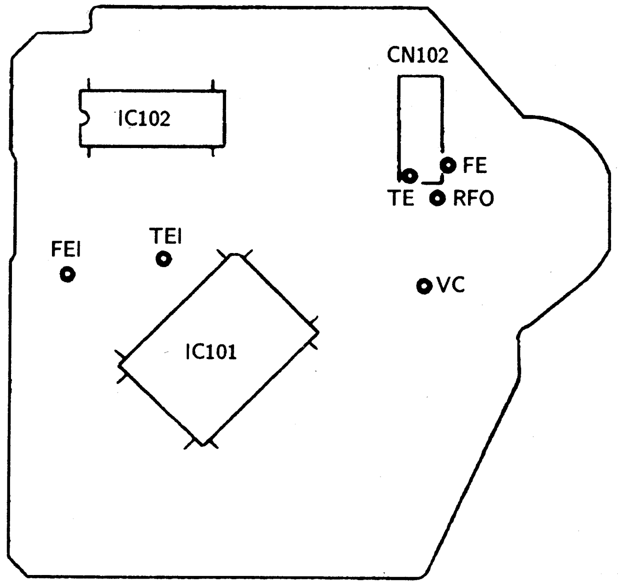

Main board
frequency counter
TP (PLCK)
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218 MHz.

Adjustment Location :

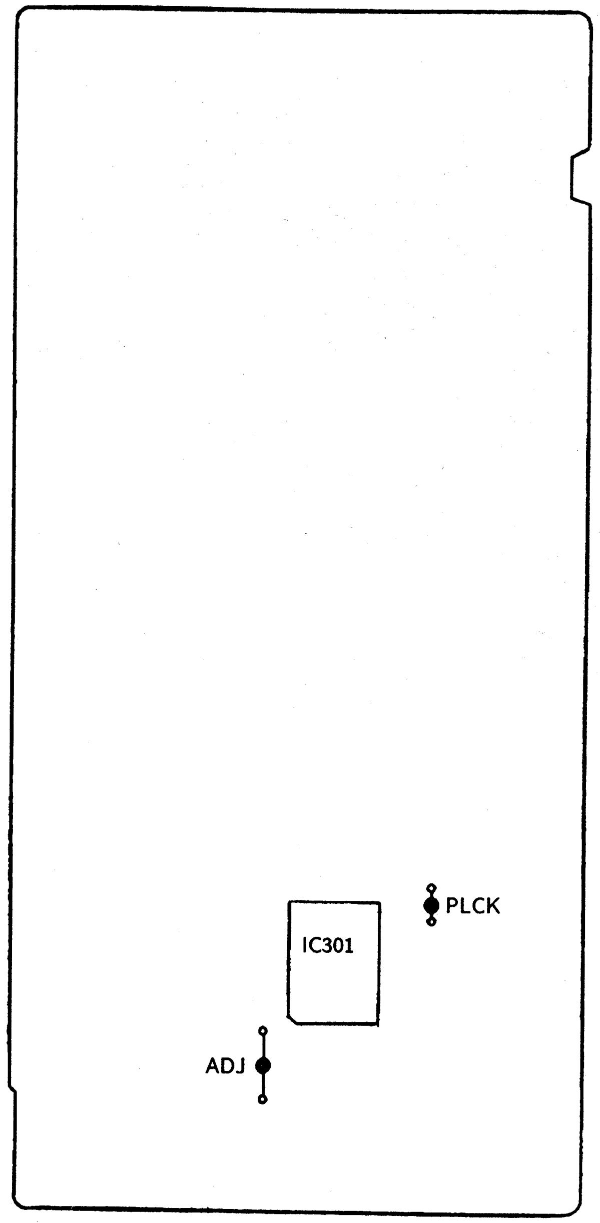
【BD BOARD】

- Solder side -


IC102
CN102
FE
TE
RFO
FEI
TEI
VC
IC101

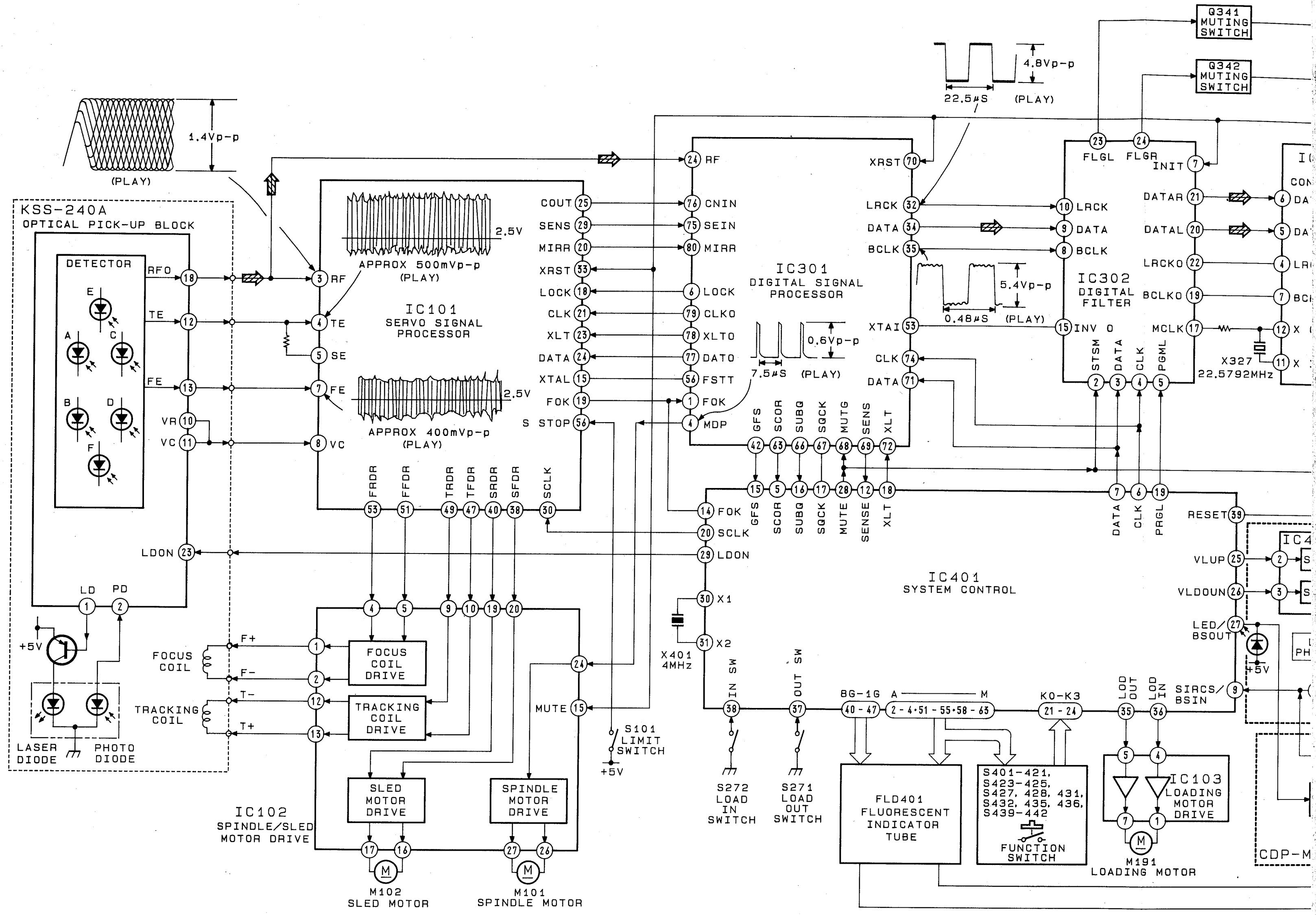
【MAIN BOARD】

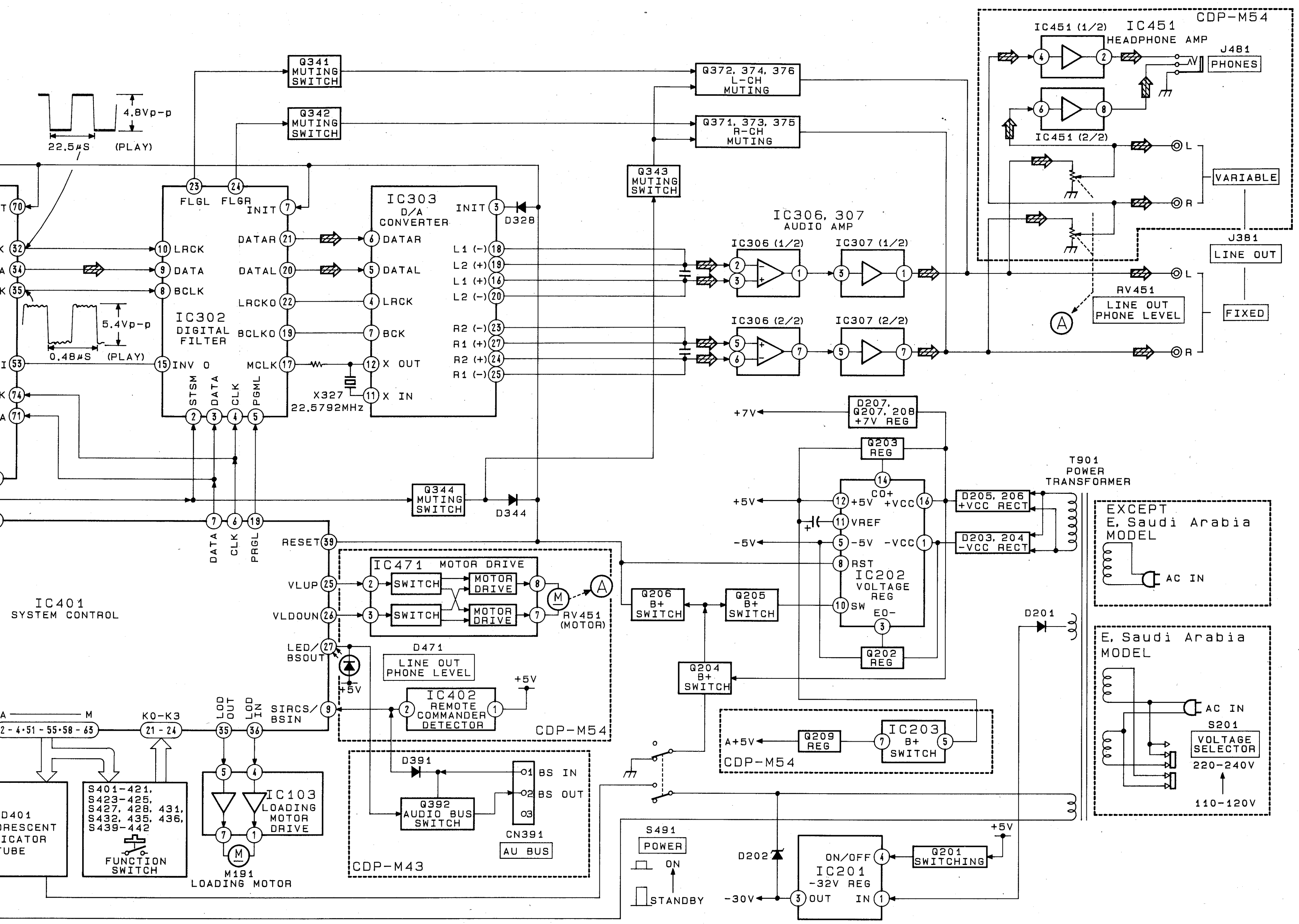
- Component side -


IC301
PLCK
ADJ

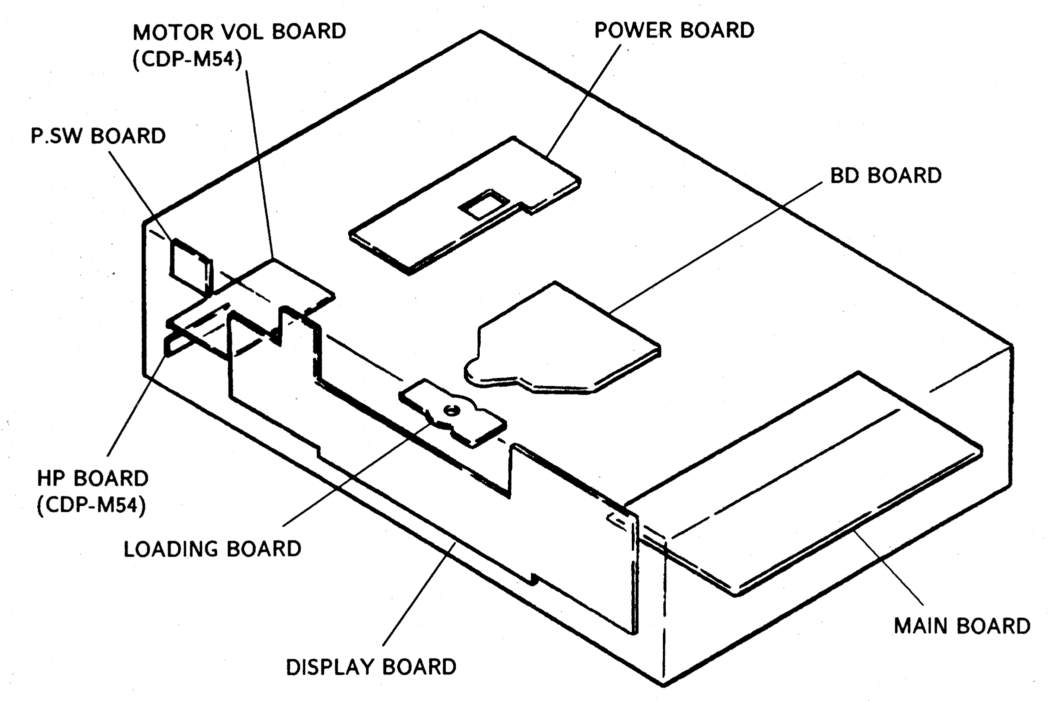
SECTION 4
DIAGRAMS

4-1 BLOCK DIAGRAM


KSS-240A
OPTICAL PICK-UP BLOCK
DETECTOR
RFO
TE
FE
VR
VC
LDON
LD
PD
+5V
LASER DIODE
PHOTO DIODE
FOCUS COIL
TRACKING COIL
1.4Vp-p
(PLAY)
APPROX 500mVp-p
(PLAY)
2.5V
IC101
SERVO SIGNAL PROCESSOR
APPROX 400mVp-p
(PLAY)
RF
TE
SE
FE
VC
COUT
SENS
MIRR
XRST
LOCK
CLK
XLT
DATA
XTAL
FOK
S STOP
FRDR
FFDR
TRDR
TFDR
SRDR
SFDR
SCLK
FOCUS COIL DRIVE
TRACKING COIL DRIVE
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
MUTE
IC102
SPINDLE/SLED MOTOR DRIVE
M102
SLED MOTOR
M101
SPINDLE MOTOR
S101
LIMIT SWITCH
+5V
IC301
DIGITAL SIGNAL PROCESSOR
RF
CNIN
SEIN
MIRR
LOCK
CLKO
XLTO
DATO
FSTT
FOK
MDP
XRST
LRCK
DATA
BCLK
XTAI
CLK
DATA
0.6Vp-p
7.5μS
(PLAY)
4.8Vp-p
22.5μS
(PLAY)
5.4Vp-p
0.48μS
(PLAY)
GFS
SCOR
SUBQ
SQCK
MUTG
SENS
XLT
IC302
DIGITAL FILTER
FLGL
FLGR
INIT
DATAR
DATAL
LRCKO
BCLKO
MCLK
INV 0
STSM
DATA
CLK
PGML
X327
22.5792MHz
Q341
MUTING SWITCH
Q342
MUTING SWITCH
IC401
SYSTEM CONTROL
FOK
SCLK
LDON
X1
X2
X401
4MHz
IN SW
OUT SW
S272
LOAD IN SWITCH
S271
LOAD OUT SWITCH
8G-1G
A
M
K0-K3
FLD401
FLUORESCENT INDICATOR TUBE
S401-421, S423-425, S427, 428, 431, S432, 435, 436, S439-442
FUNCTION SWITCH
LOD OUT
LOD IN
SIRCS/BSIN
IC103
LOADING MOTOR DRIVE
M191
LOADING MOTOR
RESET
VLUP
VLDOUN
LED/BSOUT
+5V
DATA
CLK
PRGL
CDP-M

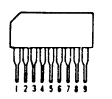

4.8Vp-p
22.5μS (PLAY)
5.4Vp-p
0.48μS (PLAY)
Q341 MUTING SWITCH
Q342 MUTING SWITCH
Q343 MUTING SWITCH
Q344 MUTING SWITCH
Q372, 374, 376 L-CH MUTING
Q371, 373, 375 R-CH MUTING
IC302 DIGITAL FILTER
FLGL FLGR INIT
LRCK DATA BCLK
INV O
STSM DATA CLK PGML
DATAR DATAL LRCKO BCLKO MCLK
IC303 D/A CONVERTER
INIT
D328
L1 (−) L2 (+) L1 (+) L2 (−)
R2 (−) R1 (+) R2 (+) R1 (−)
X OUT X IN
X327 22.5792MHz
IC306, 307 AUDIO AMP
IC306 (1/2)
IC307 (1/2)
IC306 (2/2)
IC307 (2/2)
D344
IC401 SYSTEM CONTROL
RESET
VLUP
VLDOUN
LED/BSOUT
SIRCS/BSIN
DATA CLK PRGL
LOD OUT
LOD IN
IC471 MOTOR DRIVE
SWITCH
MOTOR DRIVE
RV451 (MOTOR)
D471
LINE OUT PHONE LEVEL
IC402 REMOTE COMMANDER DETECTOR
+5V
CDP-M54
D391
Q392 AUDIO BUS SWITCH
BS IN
BS OUT
CN391
AU BUS
CDP-M43
K0-K3
21 - 24
S401-421, S423-425, S427, 428, 431, S432, 435, 436, S439-442
FUNCTION SWITCH
D401 FLUORESCENT INDICATOR TUBE
IC103 LOADING MOTOR DRIVE
M191 LOADING MOTOR
IC451 (1/2)
IC451 HEADPHONE AMP
IC451 (2/2)
CDP-M54
J481 PHONES
VARIABLE
J381 LINE OUT
FIXED
RV451 LINE OUT PHONE LEVEL
L R
+7V
D207, Q207, 208 +7V REG
Q203 REG
+5V
-5V
CO+
+5V +VCC
VREF
-5V -VCC
RST
IC202 VOLTAGE REG
SW
EO-
Q202 REG
D205, 206 +VCC RECT
D203, 204 -VCC RECT
T901 POWER TRANSFORMER
EXCEPT E, Saudi Arabia MODEL
AC IN
E, Saudi Arabia MODEL
S201 VOLTAGE SELECTOR
220-240V
110-120V
Q206 B+ SWITCH
Q205 B+ SWITCH
Q204 B+ SWITCH
A+5V
Q209 REG
IC203 B+ SWITCH
CDP-M54
D201
S491 POWER
ON
STANDBY
D202
-30V
ON/OFF
IC201 -32V REG
OUT IN
Q201 SWITCHING
+5V

4-2 CIRCUIT BOARDS LOCATION

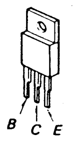

MOTOR VOL BOARD (CDP-M54)
POWER BOARD
P.SW BOARD
BD BOARD
HP BOARD (CDP-M54)
LOADING BOARD
MAIN BOARD
DISPLAY BOARD

4-3 SEMICONDUCTOR LEAD LAYOUTS

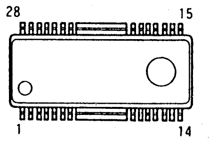
BA6208
RC4556S



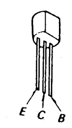
2SB1094-LK



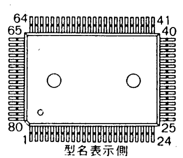
BA6297AFP



2SC1815-Y
2SC2878-AB

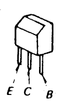


CXD2500AQ

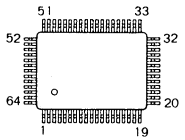

64
41
65
40
80
25
1
24

製名表示側
MARKING SIDE VIEW

2SD774-34

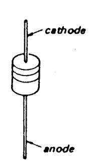


CXD2501Q

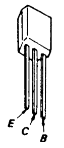

51
33
52
32
64
20
1
19

TOP VIEW

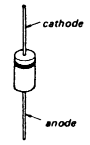
RD5.6ES-B2
RD7.5ES-B2
RD7.5JS-B2
RD9.1ES-L
11ES2


cathode
anode

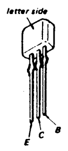
DTA144ES
DTC114ES
DTC144ES
2SC2458-YGR



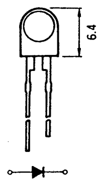
1N4148M
10E2


cathode
anode

2SA1175-HFE
2SC3623A-LK


letter side
E
C
B

BR4361F



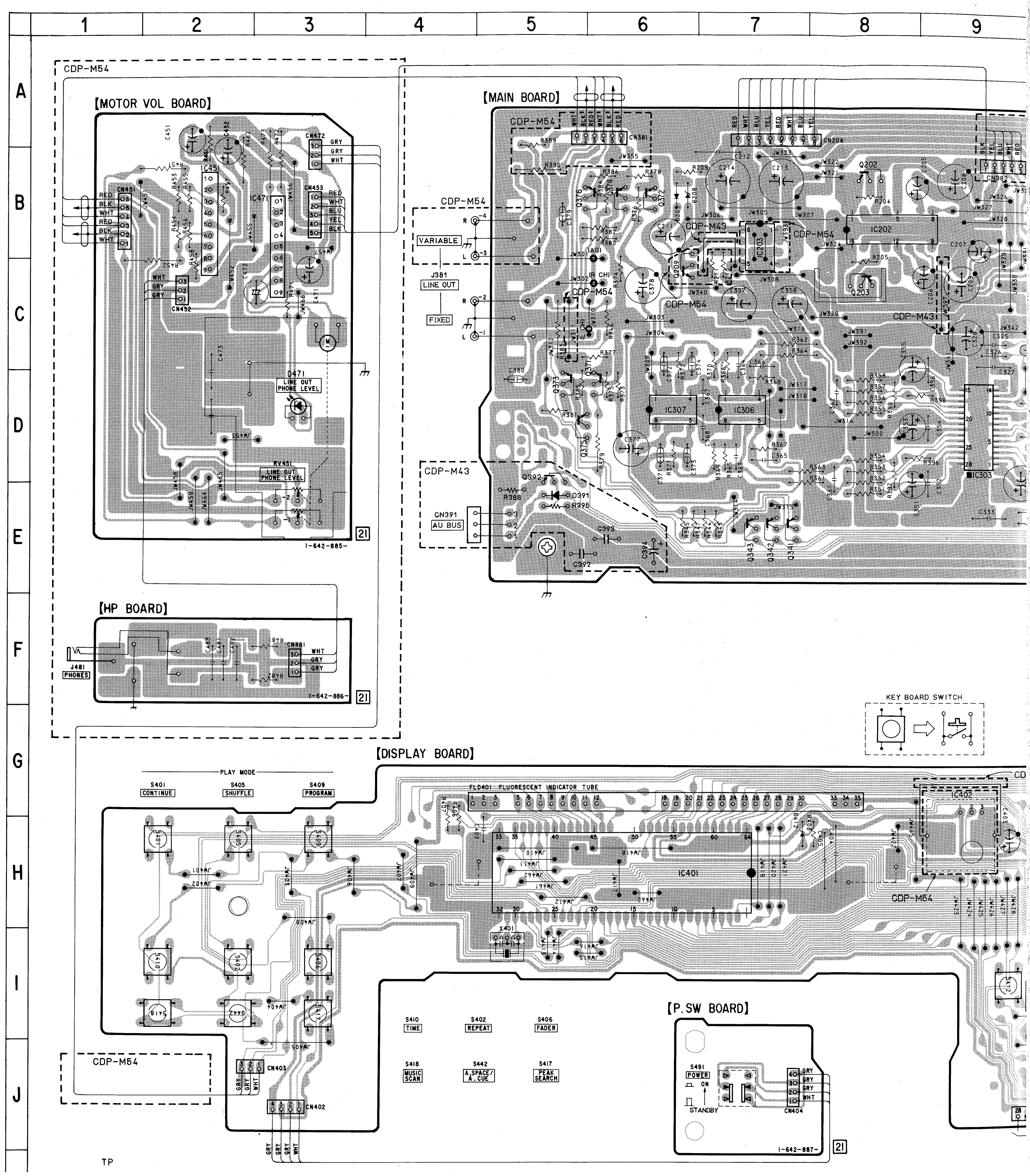
• SEMICONDUCTOR LOCATION

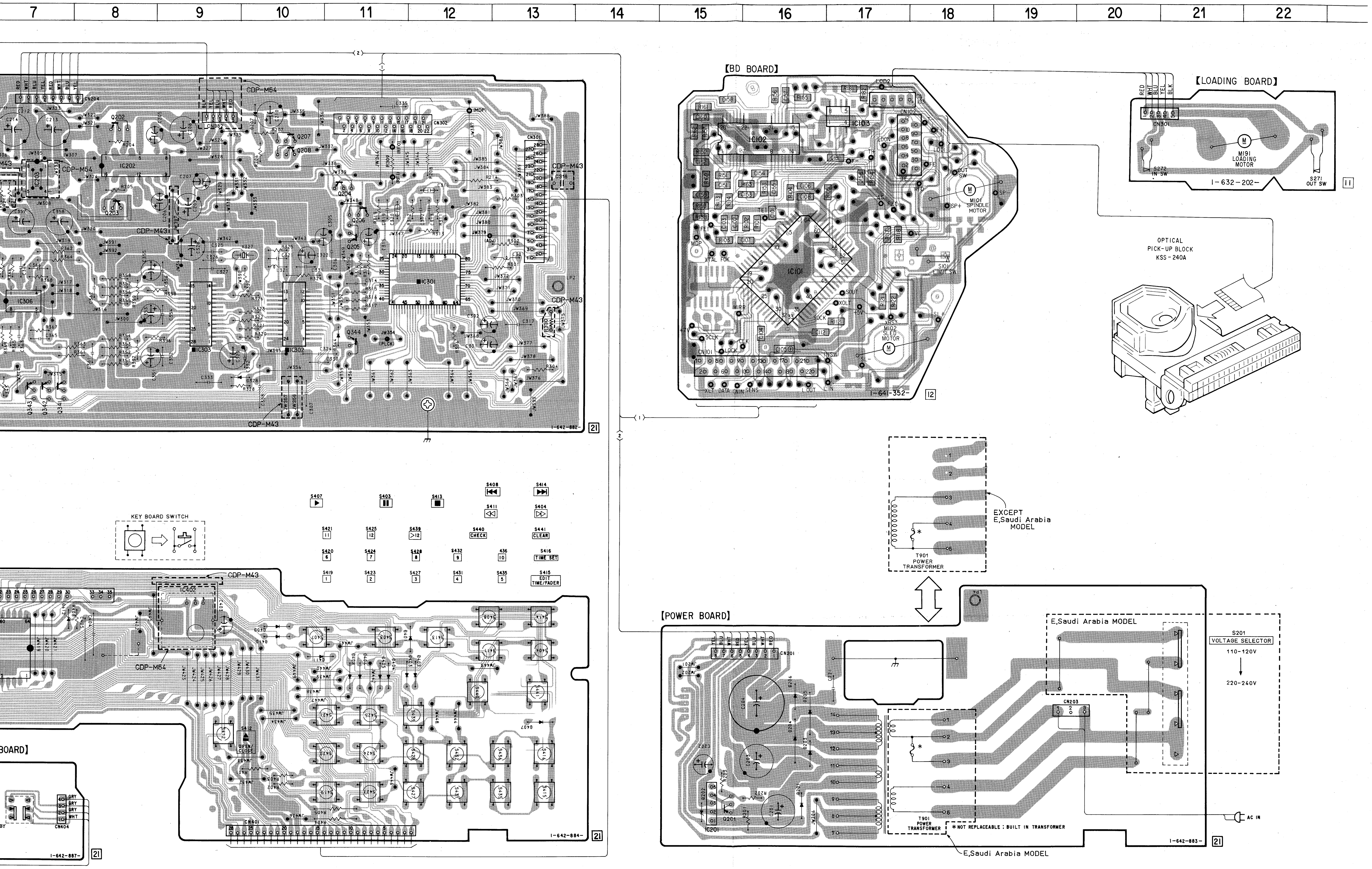
Ref. No.	Location	Ref. No.	Location
D201	J – 16	IC203	B – 7
D202	J – 15	IC301	D – 12
D203	I – 16	IC302	D – 10
D204	I – 16	IC303	D – 9
D205	I – 16	IC306	D – 7
D206	I – 16	IC307	D – 6
D207	B – 10	IC401	H – 6
D208	B – 6	IC402	G – 9
D209	B – 6	IC451	B – 2
D328	E – 10	IC471	B – 3
D344	D – 11		
D391	E – 5	Q201	J – 15
D401	H – 12	Q202	B – 8
D402	H – 12	Q203	C – 8
D403	H – 12	Q204	B – 11
D404	H – 11	Q205	C – 11
D405	H – 11	Q206	C – 11
D406	H – 11	Q207	B – 10
D407	I – 13	Q208	B – 10
D408	H – 11	Q209	C – 6
		Q341	E – 7
D409	H – 10		
D410	H – 10	Q342	E – 7
D411	H – 10	Q343	E – 7
D412	H – 7	Q344	D – 11
D471	D – 3	Q371	D – 6
		Q372	B – 6
IC101	C – 16	Q373	D – 5
IC102	B – 16	Q374	B – 6
IC103	B – 17	Q375	D – 5
IC201	J – 15	Q376	B – 6
IC202	B – 8	Q392	D – 5

Note :

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▒ : Pattern on the side which is seen.
- ░ : Pattern of the rear side.

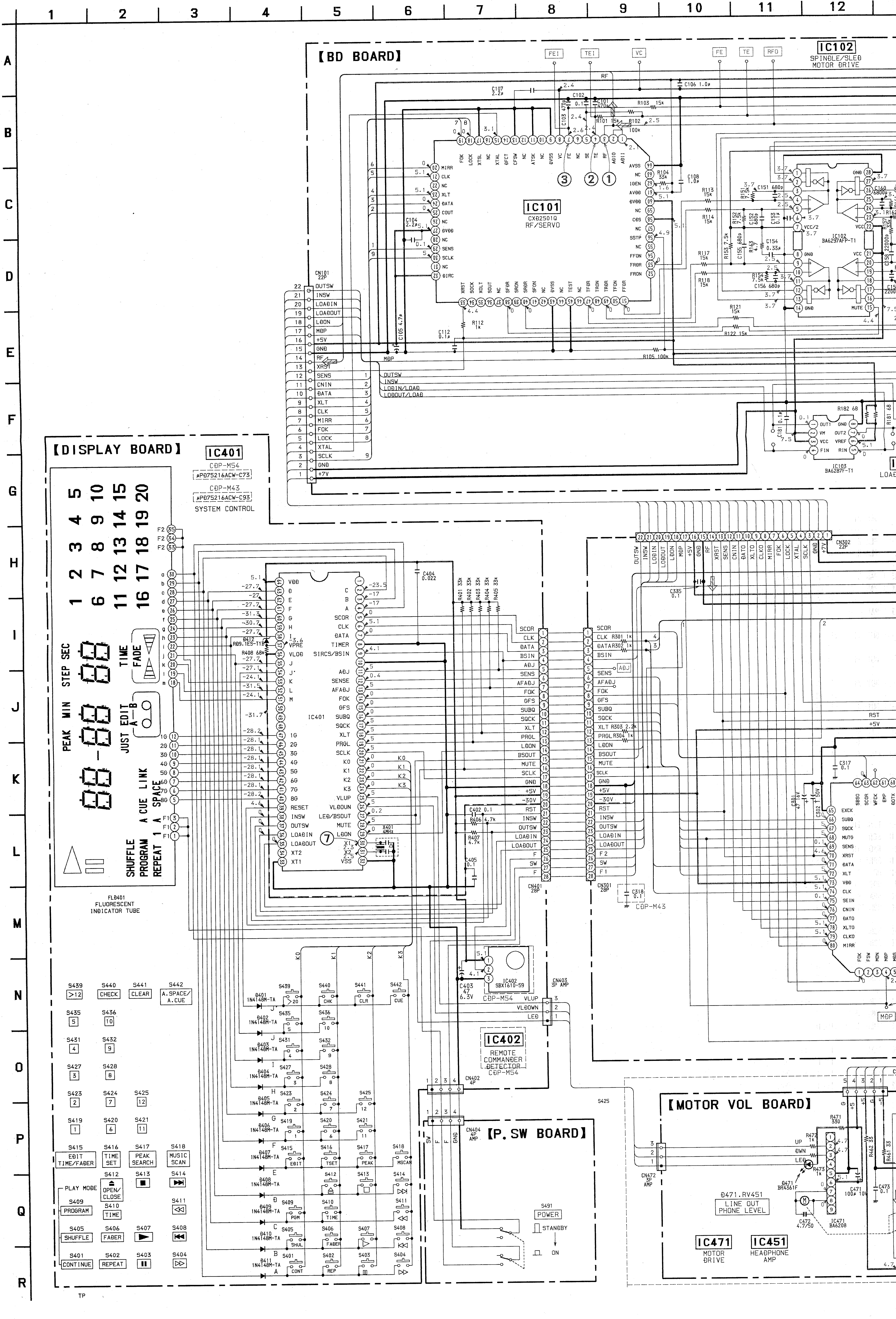
4-4 PRINTED WIRING BOARDS

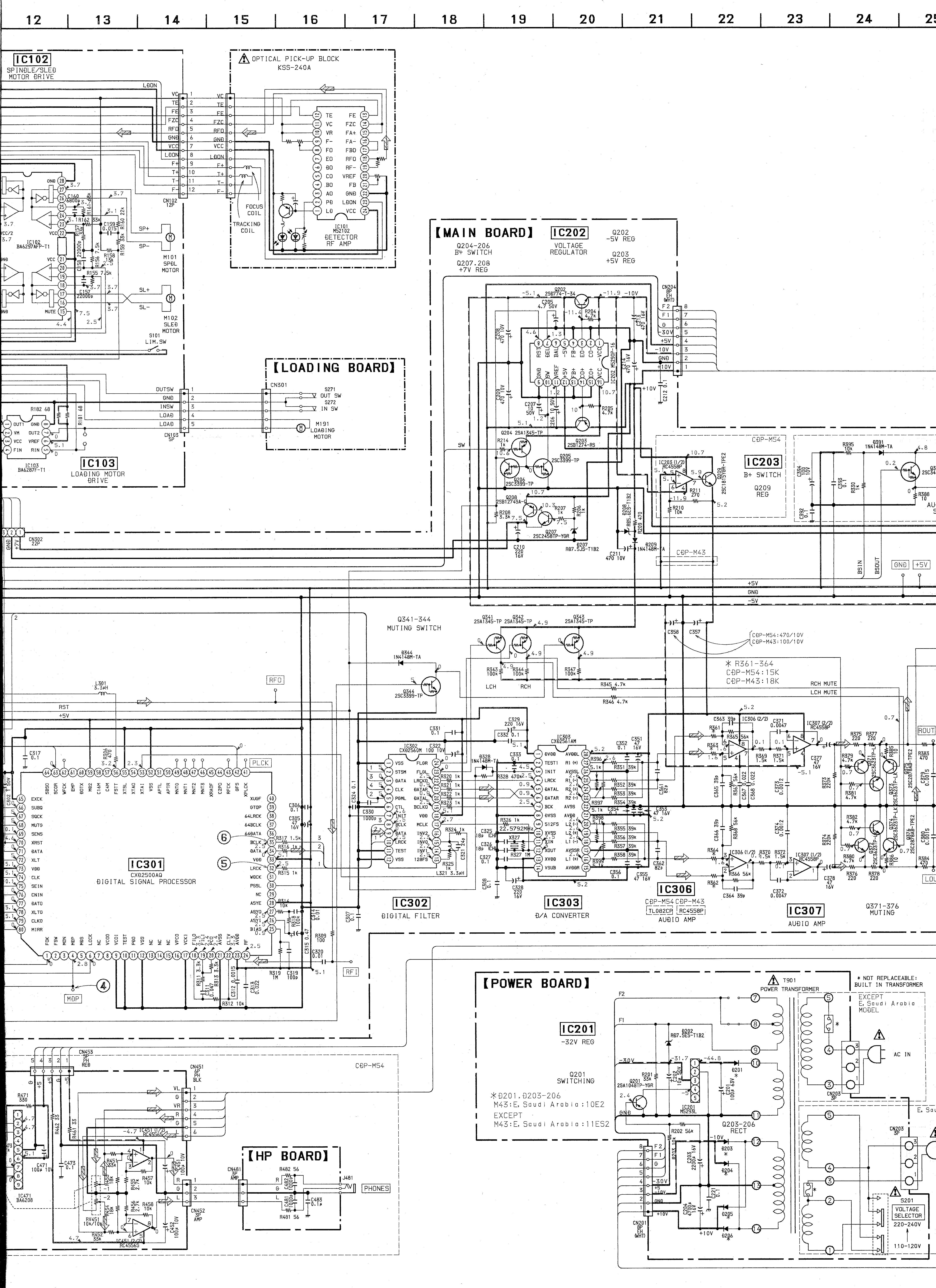

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
CDP-M54
[MOTOR VOL BOARD]
[MAIN BOARD]
CDP-M54
CDP-M43
VARIABLE
J381
LINE OUT
FIXED
CDP-M43
CN391
AU BUS
IC451
IC471
CN451
CN452
CN453
CN472
D471
LINE OUT
PHONE LEVEL
RV451
LINE OUT
PHONE LEVEL
1-642-885-
21
[HP BOARD]
J481
PHONES
CN481
1-642-886-
21
IC202
IC203
IC306
IC307
IC303
Q202
Q203
CN381
CN204
KEY BOARD SWITCH
[DISPLAY BOARD]
PLAY MODE
S401
CONTINUE
S405
SHUFFLE
S409
PROGRAM
FLD401 FLUORESCENT INDICATOR TUBE
IC401
IC402
X401
CDP-M54
S410
TIME
S402
REPEAT
S406
FADER
S418
MUSIC SCAN
S442
A.SPACE/A.CUE
S417
PEAK SEARCH
CN403
CN402
[P.SW BOARD]
S491
POWER
ON
STANDBY
CN404
1-642-887-
21
CDP-M54
TP

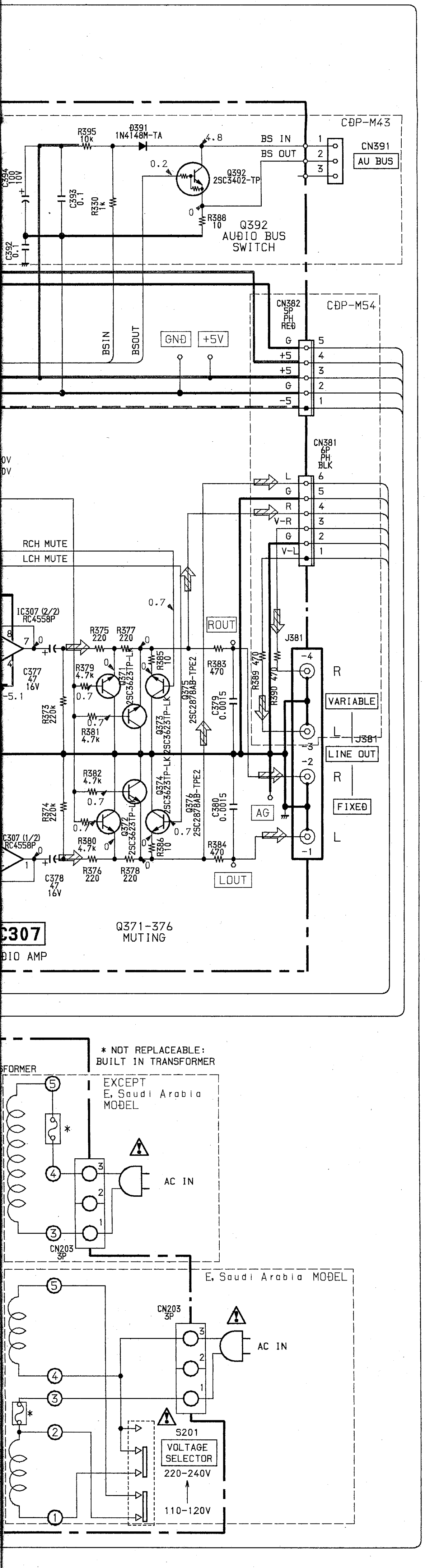
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
CDP-M64
CDP-M43
CDP-M54
IC202
IC306
IC303
IC302
IC301
CN204
CN302
CN301
1-642-882-
21
【BD BOARD】
IC101
IC102
IC103
CN101
CN102
M101 SPINDLE MOTOR
M102 SLED MOTOR
S101 LIMIT SW
1-641-352-
12
【LOADING BOARD】
CN301
M191 LOADING MOTOR
S272 IN SW
S271 OUT SW
1-632-202-
11
OPTICAL PICK-UP BLOCK KSS-240A
EXCEPT E,Saudi Arabia MODEL
T901 POWER TRANSFORMER
KEY BOARD SWITCH
S407
S403
S413
S408
S414
S411
S404
S421
S425
S439
S440 CHECK
S441 CLEAR
S420
S424
S428
S432
436
S416 TIME SET
S419
S423
S427
S431
S435
S415 EDIT TIME/FADER
IC402
CN401
S412 OPEN/CLOSE
1-642-884-
21
BOARD】
CN404
1-642-887-
21
【POWER BOARD】
CN201
CN203
IC201
Q201
E,Saudi Arabia MODEL
S201 VOLTAGE SELECTOR
110-120V
220-240V
AC IN
T901 POWER TRANSFORMER
* NOT REPLACEABLE : BUILT IN TRANSFORMER
1-642-883-
21
E,Saudi Arabia MODEL

4-5 SCHEMATIC DIAGRAM

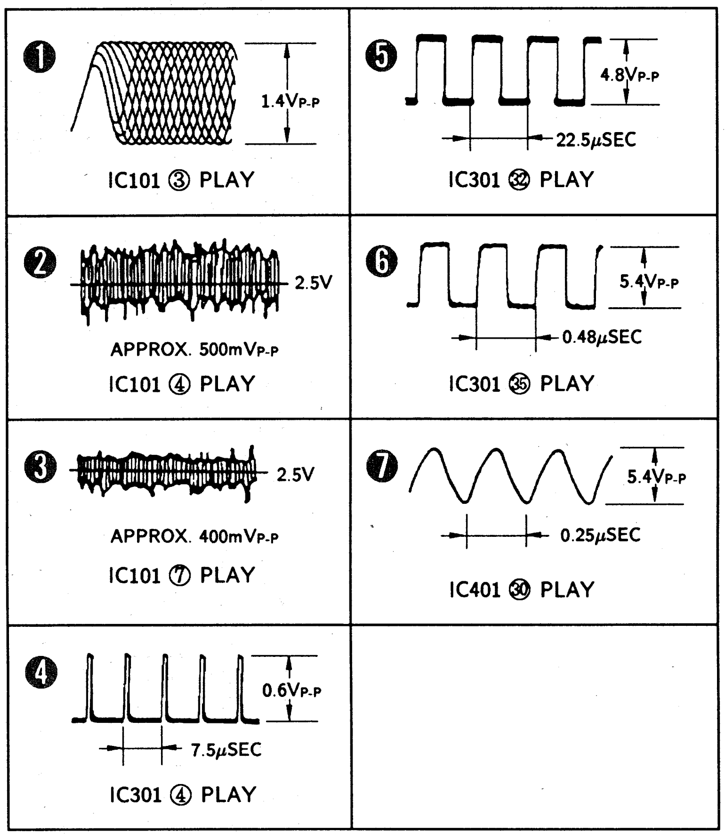
• Refer to Page 20 for IC Block Diagrams.


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
【BD BOARD】
FEI
TEI
VC
FE
TE
RFO
IC101
CXD2501Q
RF/SERVO
IC102
SPINDLE/SLED
MOTOR DRIVE
IC102
BA6297AFP-T1
IC103
BA6287F-T1
LOAD
CN101
22P
OUTSW
INSW
LOADIN
LOADOUT
LDON
MDP
+5V
GND
RF
XRST
SENS
CNIN
DATA
XLT
CLK
MIRR
FOK
LOCK
XTAL
SCLK
+7V
【DISPLAY BOARD】
IC401
CDP-M54
μPD75216ACW-C73
CDP-M43
μPD75216ACW-C93
SYSTEM CONTROL
FLD401
FLUORESCENT
INDICATOR TUBE
CN302
22P
CN401
28P
CN301
28P
CDP-M43
IC402
SBX1610-59
CDP-M54
VLUP
VLDOWN
LED
CN403
3P AMP
IC402
REMOTE
COMMANDER
DETECTOR
CDP-M54
CN402
4P
CN404
4P
AMP
【P.SW BOARD】
S491
POWER
STANDBY
ON
【MOTOR VOL BOARD】
CN472
3P
AMP
UP
DWN
LED
D471
BR4361F
D471, RV451
LINE OUT
PHONE LEVEL
IC471
BA6208
IC471
MOTOR
DRIVE
IC451
HEADPHONE
AMP
S439 >12
S440 CHECK
S441 CLEAR
S442 A.SPACE/A.CUE
S435 5
S436 10
S431 4
S432 9
S427 3
S428 8
S423 2
S424 7
S425 12
S419 1
S420 6
S421 11
S415 EDIT TIME/FADER
S416 TIME SET
S417 PEAK SEARCH
S418 MUSIC SCAN
S412 OPEN/CLOSE
S413 ■
S414 ▶▶|
PLAY MODE
S409 PROGRAM
S410 TIME
S411 ◁◁
S405 SHUFFLE
S406 FADER
S407 ▶
S408 |◀◀
S401 CONTINUE
S402 REPEAT
S403 ❙❙
S404 ▷▷
D401 1N4148M-TA
D402 1N4148M-TA
D403 1N4148M-TA
D404 1N4148M-TA
D405 1N4148M-TA
D406 1N4148M-TA
D407 1N4148M-TA
D408 1N4148M-TA
D409 1N4148M-TA
D410 1N4148M-TA
D411 1N4148M-TA
X401 4MHz
TP

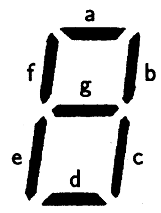

12
13
14
15
16
17
18
19
20
21
22
23
24
IC102
SPINDLE/SLED MOTOR DRIVE
OPTICAL PICK-UP BLOCK
KSS-240A
IC101
M52102
DETECTOR RF AMP
FOCUS COIL
TRACKING COIL
CN102
12P
M101
SPDL MOTOR
M102
SLED MOTOR
S101
LIM.SW
IC102
BA6297AFP-T1
【MAIN BOARD】
IC202
VOLTAGE REGULATOR
Q204-206
B+ SWITCH
Q207.208
+7V REG
Q202
-5V REG
Q203
+5V REG
CN204
8P
EH
(WHT)
【LOADING BOARD】
CN301
S271
OUT SW
S272
IN SW
M191
LOADING MOTOR
CN103
5P
IC103
BA6287F-T1
IC103
LOADING MOTOR DRIVE
CN302
22P
IC203
B+ SWITCH
Q209
REG
CDP-M54
CDP-M43
Q341-344
MUTING SWITCH
* R361-364
CDP-M54:15K
CDP-M43:18K
CDP-M54:470/10V
CDP-M43:100/10V
RCH MUTE
LCH MUTE
RFO
PLCK
RST
+5V
IC301
CXD2500AQ
DIGITAL SIGNAL PROCESSOR
IC302
CXD2560M
IC302
DIGITAL FILTER
IC303
CXD2561AM
IC303
D/A CONVERTER
IC306
CDP-M54 CDP-M43
TL082CP RC4558P
AUDIO AMP
IC307
AUDIO AMP
Q371-376
MUTING
ROUT
LOUT
RFI
MDP
【POWER BOARD】
IC201
-32V REG
Q201
SWITCHING
*D201, D203-206
M43:E, Saudi Arabia:10E2
EXCEPT
M43:E, Saudi Arabia:11ES2
T901
POWER TRANSFORMER
* NOT REPLACEABLE:
BUILT IN TRANSFORMER
EXCEPT
E, Saudi Arabia
MODEL
E, Saudi
AC IN
CN203
3P
Q203-206
RECT
IC201
M5293L
CN201
8P
EH
(WHT)
S201
VOLTAGE SELECTOR
220-240V
110-120V
CN453
5P
RED
CN451
6P
PH
BLK
IC471
BA6208
IC451 (1/2)
RC4556S
IC451 (2/2)
RC4556S
RV451
10k/10k
CN452
3P
AMP
【HP BOARD】
CN481
3P
AMP
J481
PHONES
CDP-M54


CDP-M43
R395 10k
D391 1N4148M-TA
4.8
BS IN
BS OUT
1
2
3
CN391
AU BUS
0.2
Q392 2SC3402-TP
C394 100 10V
C393 0.1
R330 1k
0
R388 10
Q392 AUDIO BUS SWITCH
C392 0.1
CDP-M54
CN382 5P PH RED
BSIN
BSOUT
GND
+5V
G
+5
+5
G
-5
5
4
3
2
1
CN381 6P PH BLK
L
G
R
V-R
G
V-L
6
5
4
3
2
1
0V
0V
RCH MUTE
LCH MUTE
0.7
IC307 (2/2) RC4558P
R375 220
R377 220
ROUT
J381
C377 47 16V
-5.1
R379 4.7k
Q371 2SC3623TP-L
R385 10
Q375 2SC2878AB-TPE2
R383 470
R389 470
R390 470
-4
R
VARIABLE
L
J381
-3
LINE OUT
-2
R
FIXED
L
-1
R373 220k
R381 4.7k
Q373 2SC3623TP-LK
C379 0.0015
R382 4.7k
Q374 2SC3623TP-LK
Q376 2SC2878AB-TPE2
C380 0.0015
AG
R374 220k
Q372 2SC3623TP-L
IC307 (1/2) RC4558P
R380 4.7k
R386 10
R384 470
C378 47 16V
R376 220
R378 220
LOUT
IC307
AUDIO AMP
Q371-376 MUTING
* NOT REPLACEABLE: BUILT IN TRANSFORMER
TRANSFORMER
EXCEPT E, Saudi Arabia MODEL
AC IN
CN203 3P
E, Saudi Arabia MODEL
CN203 3P
AC IN
S201
VOLTAGE SELECTOR
220-240V
110-120V

WAVEFORMS


❶
1.4Vp-p
IC101 ③ PLAY
❺
4.8Vp-p
22.5μSEC
IC301 ㉜ PLAY
❷
2.5V
APPROX. 500mVp-p
IC101 ④ PLAY
❻
5.4Vp-p
0.48μSEC
IC301 ㉟ PLAY
❸
2.5V
APPROX. 400mVp-p
IC101 ⑦ PLAY
❼
5.4Vp-p
0.25μSEC
IC401 ㊿ PLAY
❹
0.6Vp-p
7.5μSEC
IC301 ④ PLAY

FLD401

	8G	7G	6G	5G	4G	3G	2G	1G
a							1	3
b							2	4
c								5
d							6	8
e							7	9
f								10
g								
h	►		PEAK	MIN	STEP	SEC	11	13
i	▮▮		–	•			12	14
j	SHUFFLE		JUST	EDIT		TIME		15
k	PROGRAM		A. CUE	A		▮▮►	16	18
l	REPEAT		LINK	B		◄▮▮	17	19
m	1		A. SPACE	🖭		FADE		20

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

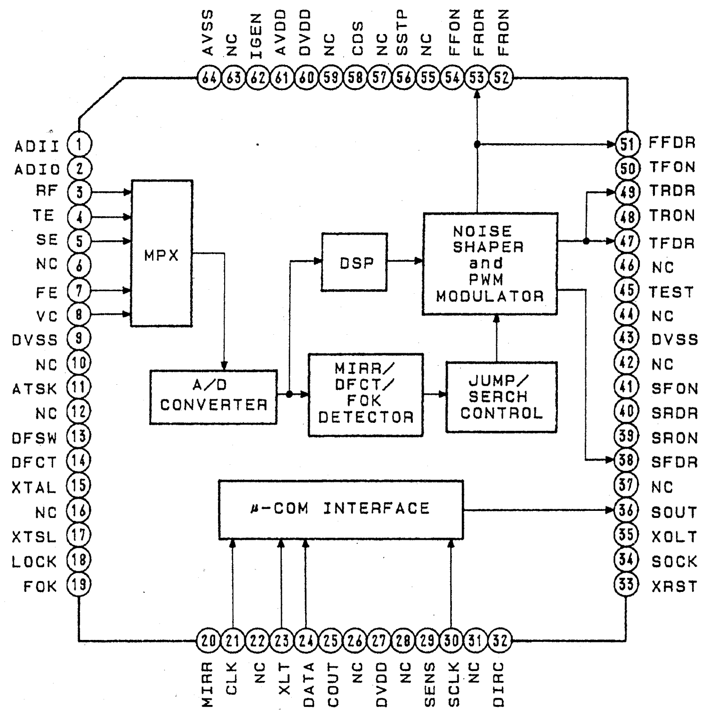
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- ▬▬ : B＋ Line
- ▬ ▬ ▬ : B－ Line
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : STOP
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

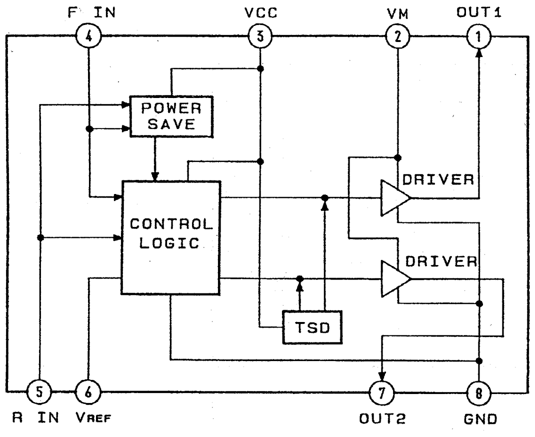
  ⇨ : CD

4-6 IC BLOCK DIAGRAM

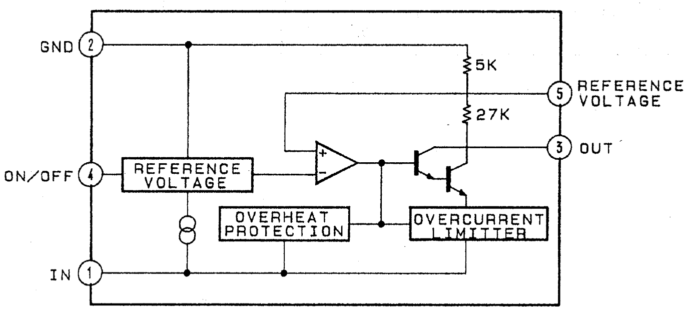
IC101 CXD2501


AVSS 64
NC 63
IGEN 62
AVDD 61
DVDD 60
NC 59
CDS 58
NC 57
SSTP 56
NC 55
FFON 54
FRDR 53
FRON 52
ADII 1
ADIO 2
RF 3
TE 4
SE 5
NC 6
FE 7
VC 8
DVSS 9
NC 10
ATSK 11
NC 12
DFSW 13
DFCT 14
XTAL 15
NC 16
XTSL 17
LOCK 18
FOK 19
51 FFDR
50 TFON
49 TRDR
48 TRON
47 TFDR
46 NC
45 TEST
44 NC
43 DVSS
42 NC
41 SFON
40 SRDR
39 SRON
38 SFDR
37 NC
36 SOUT
35 XOLT
34 SOCK
33 XRST
20 MIRR
21 CLK
22 NC
23 XLT
24 DATA
25 COUT
26 NC
27 DVDD
28 NC
29 SENS
30 SCLK
31 NC
32 DIRC
MPX
DSP
NOISE SHAPER and PWM MODULATOR
A/D CONVERTER
MIRR/ DFCT/ FOK DETECTOR
JUMP/ SERCH CONTROL
µ-COM INTERFACE

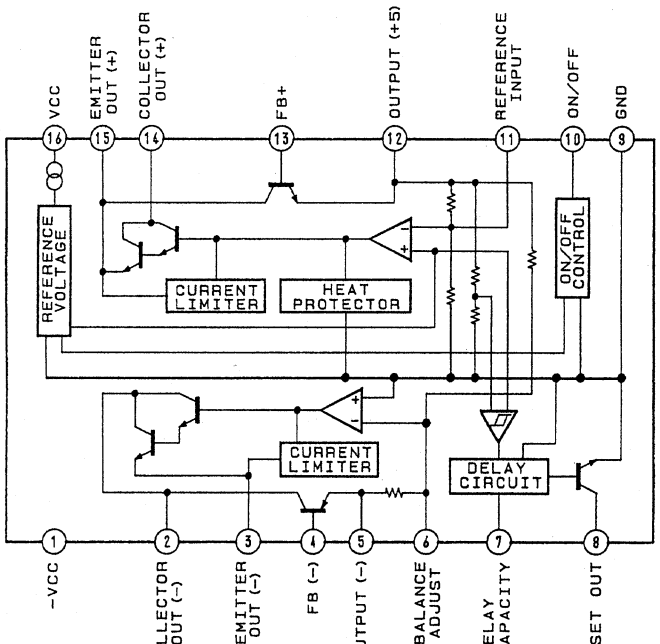
IC103 BA6287F


F IN 4
VCC 3
VM 2
OUT1 1
POWER SAVE
CONTROL LOGIC
DRIVER
DRIVER
TSD
5 R IN
6 VREF
7 OUT2
8 GND

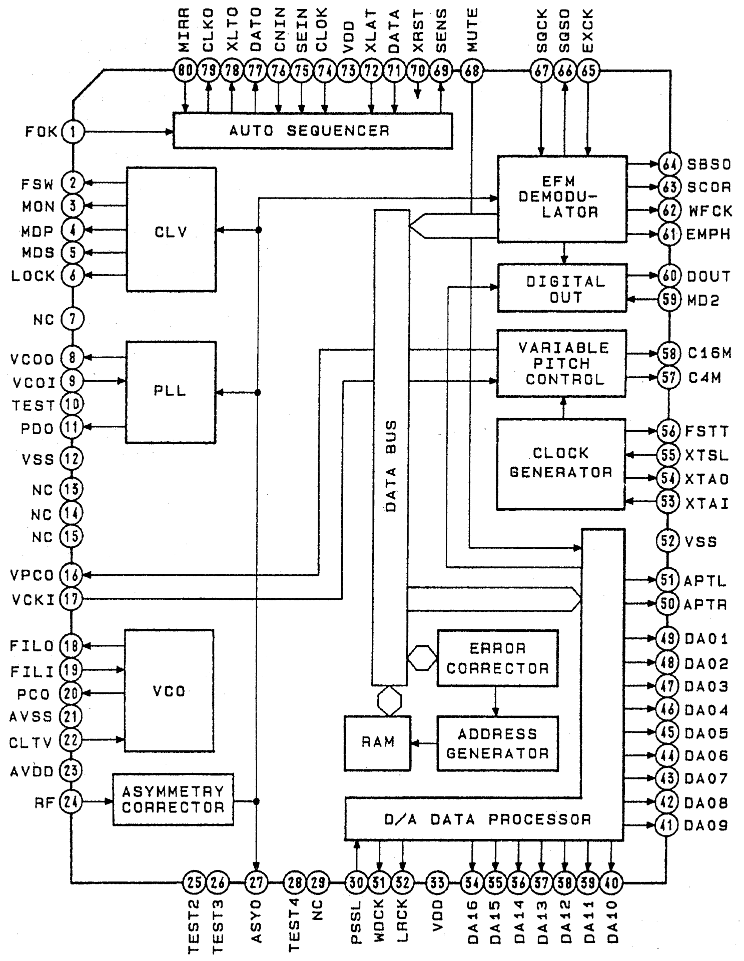
IC201 M5293L


GND 2
5K
27K
5 REFERENCE VOLTAGE
3 OUT
ON/OFF 4
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITTER
IN 1

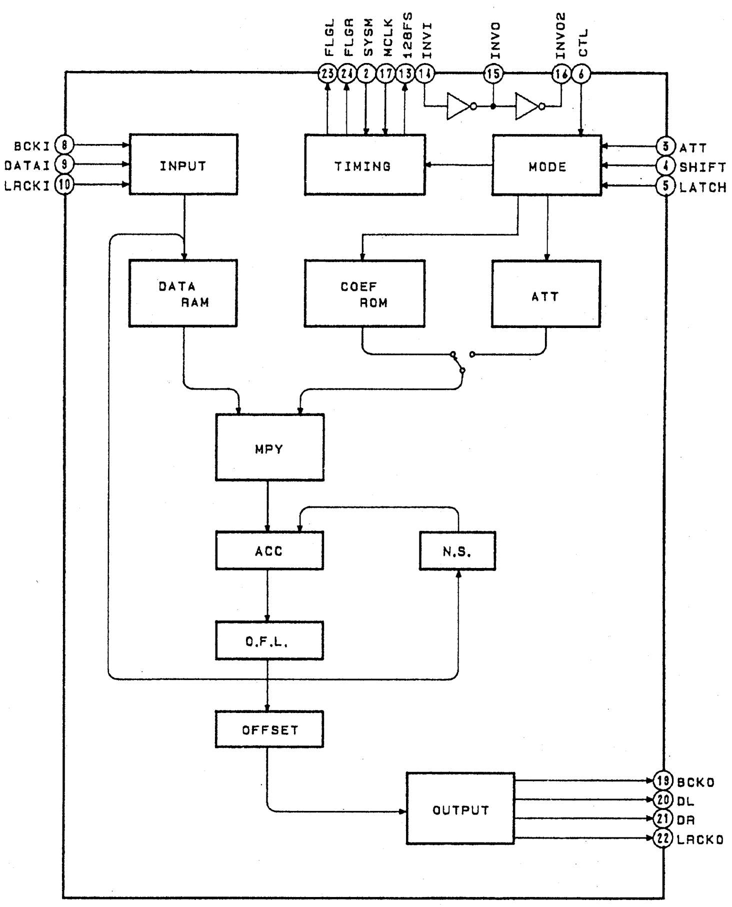
IC202 M5290P-16


VCC 16
EMITTER OUT (+) 15
COLLECTOR OUT (+) 14
FB+ 13
OUTPUT (+5) 12
REFERENCE INPUT 11
ON/OFF 10
GND 9
REFERENCE VOLTAGE
CURRENT LIMITER
HEAT PROTECTOR
ON/OFF CONTROL
CURRENT LIMITER
DELAY CIRCUIT
1 -VCC
2 COLLECTOR OUT (-)
3 EMITTER OUT (-)
4 FB (-)
5 OUTPUT (-)
6 BALANCE ADJUST
7 DELAY CAPACITY
8 RESET OUT

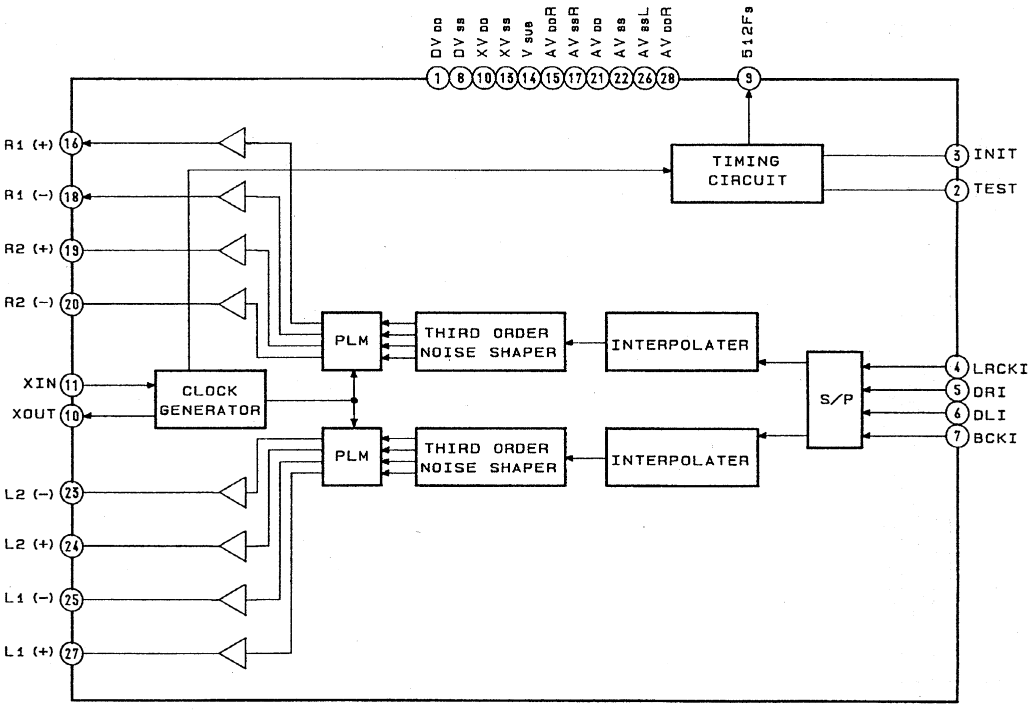
IC301 CXD2500AQ


MIRR 80
CLKO 79
XLTO 78
DATO 77
CNIN 76
SEIN 75
CLOK 74
VDD 73
XLAT 72
DATA 71
XRST 70
SENS 69
MUTE 68
SQCK 67
SQSO 66
EXCK 65
FOK 1
FSW 2
MON 3
MDP 4
MDS 5
LOCK 6
NC 7
VCOO 8
VCOI 9
TEST 10
PDO 11
VSS 12
NC 13
NC 14
NC 15
VPCO 16
VCKI 17
FILO 18
FILI 19
PCO 20
AVSS 21
CLTV 22
AVDD 23
RF 24
64 SBSO
63 SCOR
62 WFCK
61 EMPH
60 DOUT
59 MD2
58 C16M
57 C4M
56 FSTT
55 XTSL
54 XTAO
53 XTAI
52 VSS
51 APTL
50 APTR
49 DA01
48 DA02
47 DA03
46 DA04
45 DA05
44 DA06
43 DA07
42 DA08
41 DA09
25 TEST2
26 TEST3
27 ASYO
28 TEST4
29 NC
30 PSSL
31 WDCK
32 LRCK
33 VDD
34 DA16
35 DA15
36 DA14
37 DA13
38 DA12
39 DA11
40 DA10
AUTO SEQUENCER
CLV
PLL
VCO
ASYMMETRY CORRECTOR
DATA BUS
EFM DEMODU- LATOR
DIGITAL OUT
VARIABLE PITCH CONTROL
CLOCK GENERATOR
ERROR CORRECTOR
RAM
ADDRESS GENERATOR
D/A DATA PROCESSOR

IC302 CXD2560M


FLGL 23
FLGR 24
SYSM 2
MCLK 17
128FS 13
INVI 14
INVO 15
INVO2 16
CTL 6
BCKI 8
DATAI 9
LRCKI 10
3 ATT
4 SHIFT
5 LATCH
INPUT
TIMING
MODE
DATA RAM
COEF ROM
ATT
MPY
ACC
N.S.
O.F.L.
OFFSET
OUTPUT
19 BCKO
20 DL
21 DR
22 LRCKO

IC303 CXD2561AM


DVDD 1
DVSS 8
XVDD 10
XVSS 13
VSUB 14
AVDDR 15
AVSSR 17
AVDD 21
AVSS 22
AVSSL 26
AVDDL 28
512Fs 9
R1 (+) 16
R1 (–) 18
R2 (+) 19
R2 (–) 20
XIN 11
XOUT 10
L2 (–) 23
L2 (+) 24
L1 (–) 25
L1 (+) 27
3 INIT
2 TEST
4 LRCKI
5 DRI
6 DLI
7 BCKI
TIMING CIRCUIT
PLM
THIRD ORDER NOISE SHAPER
INTERPOLATER
CLOCK GENERATOR
PLM
THIRD ORDER NOISE SHAPER
INTERPOLATER
S/P

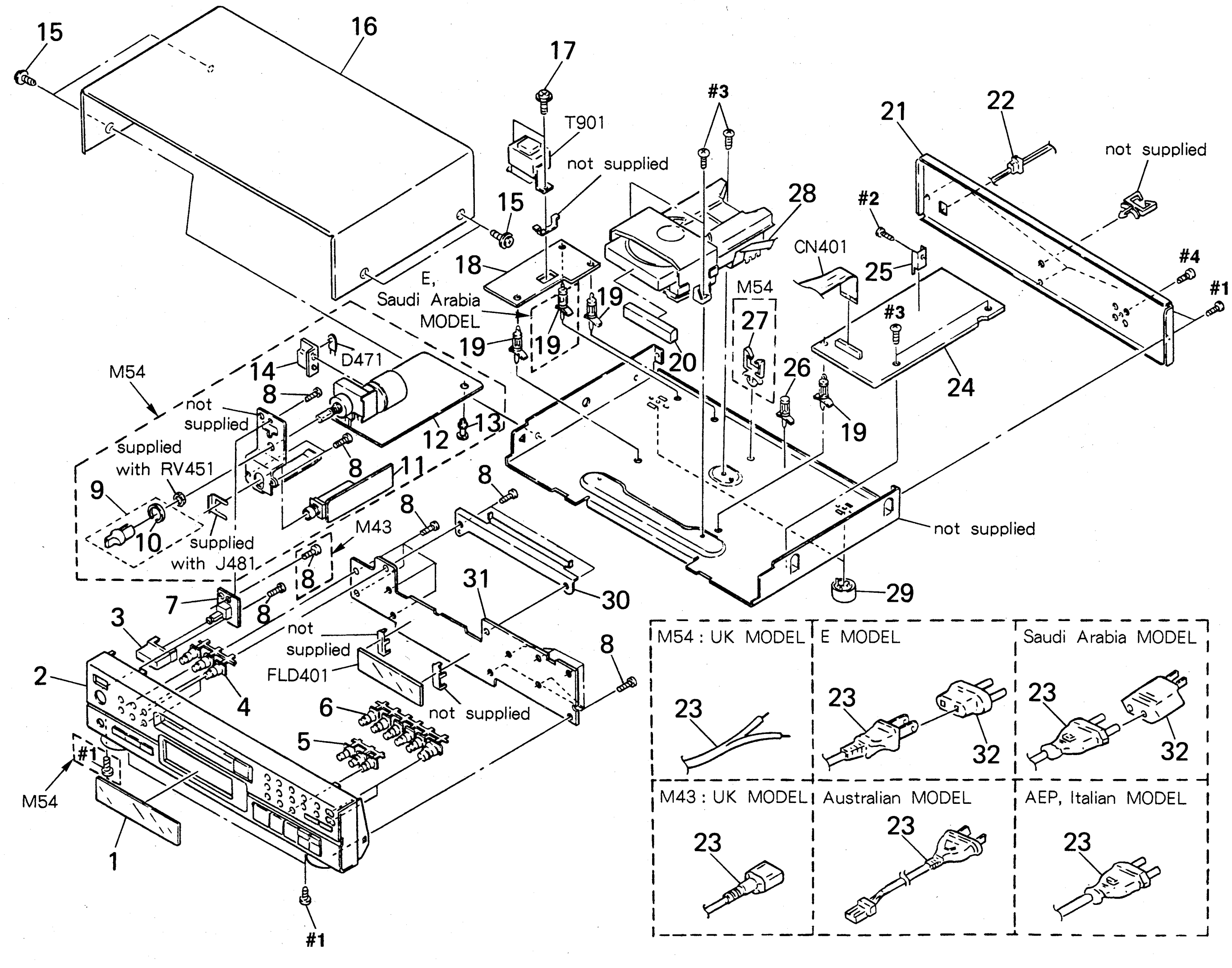
SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) .... (RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

5-1 CABINET SECTION



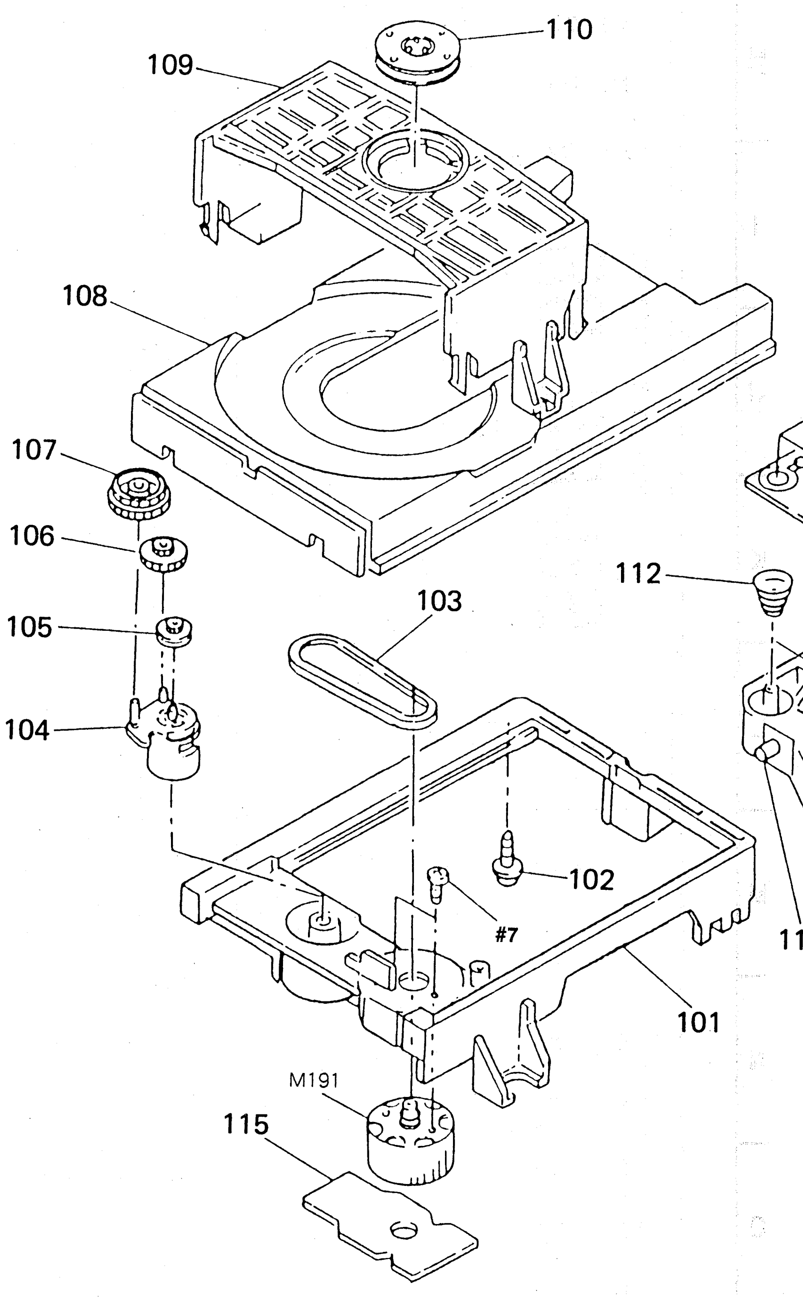
15
16
17
T901
not supplied
#3
21
22
not supplied
15
28
#2
CN401
#4
#1
18
E, Saudi Arabia MODEL
19
19
19
M54
27
25
#3
24
20
26
19
M54
14
D471
8
not supplied
supplied with RV451
12
13
9
10
supplied with J481
11
8
8
8
M43
not supplied
8
29
7
8
31
30
3
not supplied
FLD401
8
2
4
6
not supplied
5
#1
M54
1
#1
M54 : UK MODEL
E MODEL
Saudi Arabia MODEL
23
23
32
23
32
M43 : UK MODEL
Australian MODEL
AEP, Italian MODEL
23
23
23

Ref. No.	Part No.	Description	Remark
1	4-950-182-01	PLATE, INDICATION (M54)	
1	4-950-182-11	PLATE, INDICATION (M43)	
2	X-4942-345-1	PANEL ASSY, FRONT (BLACK) (M54)	
2	X-4942-346-1	PANEL ASSY, FRONT (GRAY) (EXCEPT M54/M43:Italian)	
2	X-4942-347-1	PANEL ASSY, FRONT (BLACK) (M43:Italian)	
3	4-950-176-01	BUTTON (POWER) (GRAY) (EXCEPT M54/M43:Italian)	
3	4-950-176-11	BUTTON (POWER) (BLACK) (M54/M43:Italian)	
4	4-950-177-01	BUTTON (G) (GRAY) (EXCEPT M54/M43:Italian)	
4	4-950-177-11	BUTTON (G) (BLACK) (M54/M43:Italian)	
5	4-950-179-01	BUTTON (MC/B) (GRAY) (EXCEPT M54/M43:Italian)	
5	4-950-179-11	BUTTON (MC/B) (BLACK) (M54/M43:Italian)	
6	4-950-178-01	BUTTON (MC/A) (GRAY) (EXCEPT M54/M43:Italian)	
6	4-950-178-11	BUTTON (MC/A) (BLACK) (M54/M43:Italian)	
* 7	1-642-887-21	P.SW BOARD	
8	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
9	A-4604-901-A	KNOB (HP) ASSY (M54)	
10	4-948-469-01	SPRING, RING (M54)	
11	1-642-886-21	HP BOARD (M54)	
* 12	A-4649-107-A	MOTOR VOL BOARD, COMPLETE (M54)	
* 13	3-676-567-00	SPACER (M54:E, AEP)	
* 14	4-922-980-01	HOLDER (LED) (M54)	
15	3-363-099-01	SCREW (CASE +3X8 TP2) (MADE IN FRANCE)	
15	3-704-366-01	SCREW (CASE) (M3X8) (MADE IN JAPAN)	
16	4-919-376-31	CASE (BLACK) (M54/M43:Italian)	
16	4-919-376-81	CASE (GRAY) (EXCEPT M54/M43:Italian)	
17	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
* 18	1-642-883-21	POWER BOARD	
* 19	4-924-098-31	HOLDER, PC BOARD	
20	4-950-174-01	PANEL, LOADING (GRAY) (EXCEPT M54/M43:Itarian)	
20	4-950-174-11	PANEL, LOADING (BLACK) (M54)	
20	4-950-174-21	PANEL, LOADING (BLACK) (M43:Italian)	

f. No.	Part No.	Description	Remark
1	4-950-182-01	PLATE, INDICATION (M54)	
1	4-950-182-11	PLATE, INDICATION (M43)	
2	X-4942-345-1	PANEL ASSY, FRONT (BLACK) (M54)	
2	X-4942-346-1	PANEL ASSY, FRONT (GRAY) (EXCEPT M54/M43:Italian)	
2	X-4942-347-1	PANEL ASSY, FRONT (BLACK) (M43:Italian)	
3	4-950-176-01	BUTTON (POWER) (GRAY) (EXCEPT M54/M43:Italian)	
3	4-950-176-11	BUTTON (POWER) (BLACK) (M54/M43:Italian)	
4	4-950-177-01	BUTTON (G) (GRAY) (EXCEPT M54/M43:Italian)	
4	4-950-177-11	BUTTON (G) (BLACK) (M54/M43:Italian)	
5	4-950-179-01	BUTTON (MC/B) (GRAY) (EXCEPT M54/M43:Italian)	
5	4-950-179-11	BUTTON (MC/B) (BLACK) (M54/M43:Italian)	
6	4-950-178-01	BUTTON (MC/A) (GRAY) (EXCEPT M54/M43:Italian)	
6	4-950-178-11	BUTTON (MC/A) (BLACK) (M54/M43:Italian)	
7	1-642-887-21	P.SW BOARD	
8	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
9	A-4604-901-A	KNOB (HP) ASSY (M54)	
10	4-948-469-01	SPRING, RING (M54)	
11	1-642-886-21	HP BOARD (M54)	
12	A-4649-107-A	MOTOR VOL BOARD, COMPLETE (M54)	
13	3-676-567-00	SPACER (M54:E, AEP)	
14	4-922-980-01	HOLDER (LED) (M54)	
15	3-363-099-01	SCREW (CASE +3X8 TP2) (MADE IN FRANCE)	
15	3-704-366-01	SCREW (CASE) (M3X8) (MADE IN JAPAN)	
16	4-919-376-31	CASE (BLACK) (M54/M43:Italian)	
16	4-919-376-81	CASE (GRAY) (EXCEPT M54/M43:Italian)	
17	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
18	1-642-883-21	POWER BOARD	
19	4-924-098-31	HOLDER, PC BOARD	
20	4-950-174-01	PANEL, LOADING (GRAY) (EXCEPT M54/M43:Itarian)	
20	4-950-174-11	PANEL, LOADING (BLACK) (M54)	
20	4-950-174-21	PANEL, LOADING (BLACK) (M43:Italian)	

Ref. No.	Part No.	Description	Remark
* 21	4-941-467-11	PANEL (ALSACE), BACK (MADE IN FRANCE M43:AEP, Italian, UK)	
21	4-941-552-21	PANEL (ALSACE), BACK (MADE IN JAPAN M54:AEP, UK)	
* 21	4-949-433-01	PANEL, BACK (MADE IN JAPAN M54:AEP)	
* 21	4-949-433-22	PANEL, BACK (M54:E)	
* 21	4-949-433-41	PANEL, BACK (MADE IN FRANCE M43:AEP)	
* 21	4-949-433-51	PANEL, BACK (M43:E, Saudi Arabia)	
* 21	4-949-433-61	PANEL, BACK (M43:Australian)	
* 22	3-703-244-00	BUSHING (2104), CORD (EXCEPT E)	
* 22	3-703-571-11	BUSHING (S) (4516), CORD (E)	
⚠23	1-558-946-21	CORD, POWER (M54:UK)	
⚠23	1-574-358-31	CORD, POWER (WITH CONNECTOR) (Australian)	
⚠23	1-575-651-21	CORD, POWER (AEP, Italian, Saudi Arabia)	
⚠23	1-575-653-21	CORD, POWER (E)	
⚠23	1-590-379-11	CORD, POWER (M43:UK)	
* 24	A-4649-105-A	MAIN BOARD, COMPLETE (M54)	
* 24	A-4649-111-A	MAIN BOARD, COMPLETE (M43)	
* 25	4-941-237-01	HEAT SINK (M54:UK)	
25	4-902-345-01	HEAT SINK (EXCEPT M54:UK)	
* 26	3-349-025-41	HOLDER, PC BOARD	
* 27	4-314-320-00	HOLDER, WIRE (M54)	
28	1-575-160-11	WIRE, FLAT TYPE (22 CORE)	
29	4-931-169-01	FOOT	
30	4-950-180-01	REINFORCEMENT (MD)	
* 31	A-4649-104-A	DISP BOARD, COMPLETE (M54)	
* 31	A-4649-110-A	DISP BOARD, COMPLETE (M43)	
⚠32	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠32	1-569-008-11	ADAPTER, CONVERSION 2P (Saudi Arabia)	
CN401	1-535-987-11	JAMPER, FILM (WITH TERMINAL)	
D471	8-719-970-49	DIODE BR4361F (M54)	
⚠T901	1-449-922-11	TRANSFORMER, POWER (EXCEPT E, Saudi Arabia)	
⚠T901	1-449-923-11	TRANSFORMER, POWER (E, Saudi Arabia)	

5-2 MD SECTION (CDM14-5BD8A)

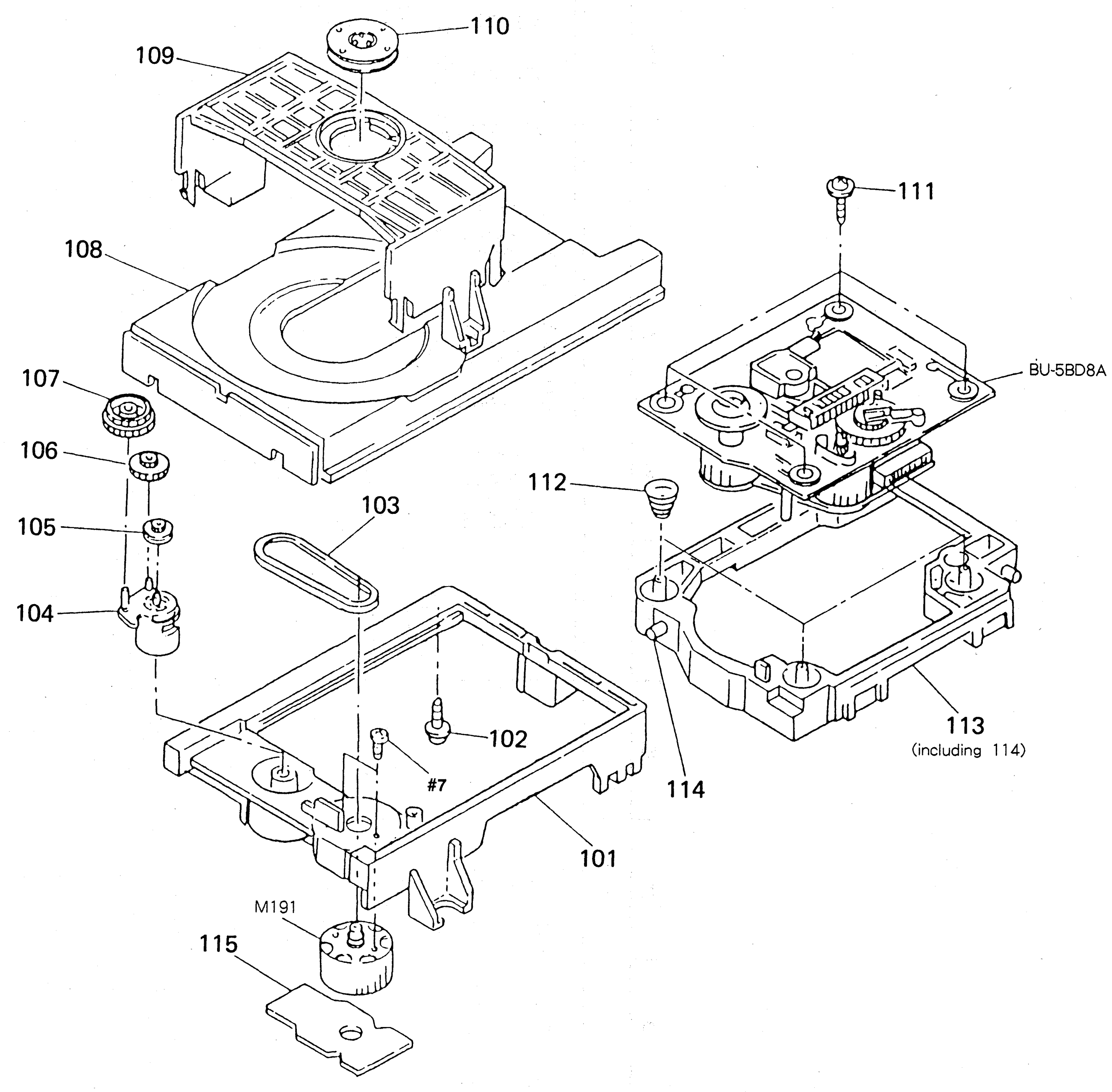


Ref. No.	Part No.	Description	Remark
101	4-933-111-01	CHASSIS (MD) (MADE IN JAPAN)	
101	4-933-111-11	CHASSIS (MD) (MADE IN FRANCE)	
* 102	4-917-583-21	BRACKET, YOKE	
103	4-927-649-01	BELT	
104	4-933-109-01	CAM	
105	4-927-651-01	PULLEY (S)	
106	4-927-628-01	GEAR (C)	
107	4-933-107-01	GEAR (PL)	
108	4-948-894-01	TABLE (ALS), DISK (MADE IN FRANCE)	
108	4-949-336-01	TABLE, DISK (MADE IN JAPAN)	

Ref. No.
109
* 110
111
112
112
113
114
* 115
M191

Ref. No.	Part No.	Description	Remark
* 21	4-941-467-11	PANEL (ALSACE), BACK (MADE IN FRANCE M43:AEP, Italian, UK)	
21	4-941-552-21	PANEL (ALSACE), BACK (MADE IN JAPAN M54:AEP, UK)	
* 21	4-949-433-01	PANEL, BACK (MADE IN JAPAN M54:AEP)	
* 21	4-949-433-22	PANEL, BACK (M54:E)	
* 21	4-949-433-41	PANEL, BACK (MADE IN FRANCE M43:AEP)	
* 21	4-949-433-51	PANEL, BACK (M43:E, Saudi Arabia)	
* 21	4-949-433-61	PANEL, BACK (M43:Australian)	
* 22	3-703-244-00	BUSHING (2104), CORD (EXCEPT E)	
* 22	3-703-571-11	BUSHING (S) (4516), CORD (E)	
⚠23	1-558-946-21	CORD, POWER (M54:UK)	
⚠23	1-574-358-31	CORD, POWER (WITH CONNECTOR) (Australian)	
⚠23	1-575-651-21	CORD, POWER (AEP, Italian, Saudi Arabia)	
⚠23	1-575-653-21	CORD, POWER (E)	
⚠23	1-590-379-11	CORD, POWER (M43:UK)	
* 24	A-4649-105-A	MAIN BOARD, COMPLETE (M54)	
* 24	A-4649-111-A	MAIN BOARD, COMPLETE (M43)	
* 25	4-941-237-01	HEAT SINK (M54:UK)	
25	4-902-345-01	HEAT SINK (EXCEPT M54:UK)	
* 26	3-349-025-41	HOLDER, PC BOARD	
* 27	4-314-320-00	HOLDER, WIRE (M54)	
28	1-575-160-11	WIRE, FLAT TYPE (22 CORE)	
29	4-931-169-01	FOOT	
30	4-950-180-01	REINFORCEMENT (MD)	
* 31	A-4649-104-A	DISP BOARD, COMPLETE (M54)	
* 31	A-4649-110-A	DISP BOARD, COMPLETE (M43)	
⚠32	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠32	1-569-008-11	ADAPTER, CONVERSION 2P (Saudi Arabia)	
CN401	1-535-987-11	JAMPER, FILM (WITH TERMINAL)	
D471	8-719-970-49	DIODE BR4361F (M54)	
⚠T901	1-449-922-11	TRANSFORMER, POWER (EXCEPT E, Saudi Arabia)	
⚠T901	1-449-923-11	TRANSFORMER, POWER (E, Saudi Arabia)	

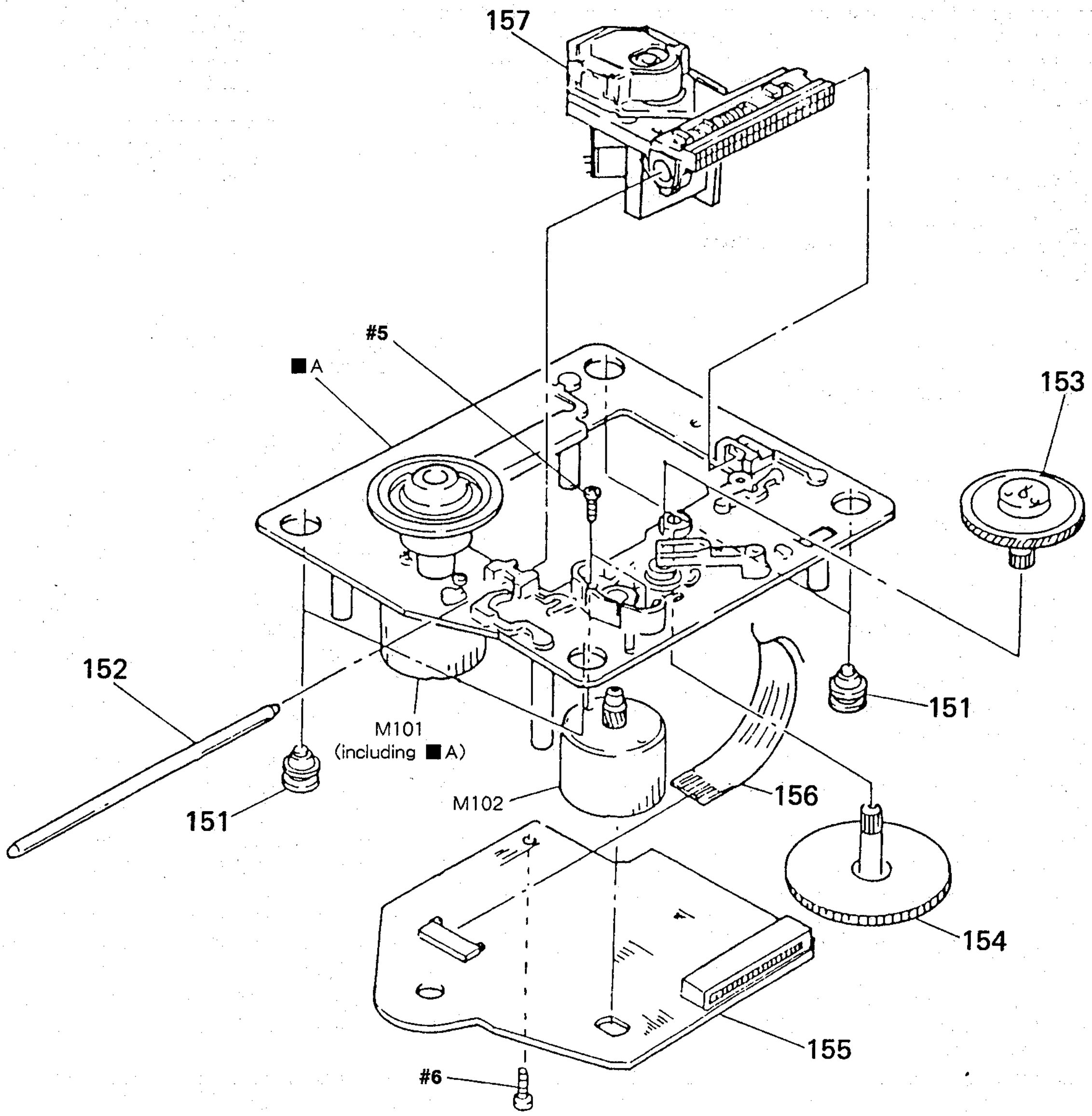
5-2 MD SECTION (CDM14-5BD8A)



Ref. No.	Part No.	Description	Remark
101	4-933-111-01	CHASSIS (MD) (MADE IN JAPAN)	
101	4-933-111-11	CHASSIS (MD) (MADE IN FRANCE)	
* 102	4-917-583-21	BRACKET, YOKE	
103	4-927-649-01	BELT	
104	4-933-109-01	CAM	
105	4-927-651-01	PULLEY (S)	
106	4-927-628-01	GEAR (C)	
107	4-933-107-01	GEAR (PL)	
108	4-948-894-01	TABLE (ALS), DISK (MADE IN FRANCE)	
108	4-949-336-01	TABLE, DISK (MADE IN JAPAN)	

Ref. No.	Part No.	Description	Remark
109	4-933-110-01	HOLDER (MG)	
* 110	1-452-538-11	MAGNET	
111	4-933-134-01	SCREW (+PTPWH M2.6X6)	
112	4-917-541-01	SPRING (B) (MADE IN FRANCE)	
112	4-948-503-01	SPRING (BU), COMPRESSION (MADE IN JAPAN)	
113	4-933-129-01	HOLDER (BU)	
114	4-933-108-01	SHAFT (CAM)	
* 115	1-632-202-11	LOADING BOARD	
M191	A-4604-363-A	MOTOR (L) ASSY	

5-3 OPTICAL PICK-UP BLOCK (BU-55BD8A)


157
#5
■A
153
152
M101
(including ■A)
151
151
M102
156
154
155
#6

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
151	4-933-126-01	INSULATOR (A)	
152	4-917-565-01	SHAFT, SLED	
153	4-917-567-01	GEAR (M)	
154	4-917-564-01	GEAR (P), FLATNESS	
* 155	A-4617-977-A	BD BOARD, COMPLETE	
156	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
⚠157	8-848-144-11	DEVICE, OPTICAL KSS-240A	
M101	X-4917-523-3	BASE (OUTSERT) ASSY	
M102	X-4917-504-1	MOTOR ASSY	

BD

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA.... : μA...., uPA.... : μPA....
  uPB.... : μPB...., uPC.... : μPC....
  uPD.... : μPD....
- CAPACITORS
  uF : μF
- COILS
  uH : μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-4617-977-A	BD BOARD, COMPLETE			
		******************			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C104	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C108	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C151	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C152	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C155	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C156	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C157	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C158	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C181	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
CN103	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			
		< IC >			
IC101	8-752-344-48	IC	CXD2501Q		
IC102	8-759-071-80	IC	BA6297AFP		
IC103	8-759-040-83	IC	BA6287F		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-00	METAL CHIP	100K	5%	1/10W
R112	1-216-049-00	METAL CHIP	1K	5%	1/10W
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W
R114	1-216-077-00	METAL CHIP	15K	5%	1/10W
R117	1-216-077-00	METAL CHIP	15K	5%	1/10W
R118	1-216-077-00	METAL CHIP	15K	5%	1/10W
R121	1-216-077-00	METAL CHIP	15K	5%	1/10W
R122	1-216-077-00	METAL CHIP	15K	5%	1/10W
R151	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R152	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R153	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R154	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R155	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R156	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R157	1-216-085-00	METAL CHIP	33K	5%	1/10W
R158	1-216-076-00	METAL CHIP	13K	5%	1/10W
R159	1-216-085-00	METAL CHIP	33K	5%	1/10W
R160	1-216-081-00	METAL CHIP	22K	5%	1/10W
R161	1-216-093-00	METAL CHIP	68K	5%	1/10W
R162	1-216-085-00	METAL CHIP	33K	5%	1/10W
R163	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R181	1-216-021-00	METAL CHIP	68	5%	1/10W
R182	1-216-021-00	METAL CHIP	68	5%	1/10W

MAIN

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN204	1-564-511-11	PLUG, CONNECTOR 8P	
* CN301	1-568-843-11	SOCKET, CONNECTOR 28P	
* CN302	1-568-822-11	SOCKET, CONNECTOR 22P	
* CN381	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P (M54)	
* CN382	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P (M54)	
* CN391	1-565-561-11	PIN, CONNECTOR 3P (AU BUS) (M43)	
		< DIODE >	
D207	8-719-114-49	DIODE RD7.5JSB2	
D208	8-719-109-89	DIODE RD5.6ESB2	
D209	8-719-987-63	DIODE 1N4148M	
D328	8-719-987-63	DIODE 1N4148M	
D344	8-719-987-63	DIODE 1N4148M	
D391	8-719-987-63	DIODE 1N4148M (M43)	
		< IC >	
IC202	8-759-630-21	IC M5290P-16	
IC203	8-759-945-58	IC RC4558P (M54)	
IC301	8-752-337-26	IC CXD2500AQ	
IC302	8-752-342-65	IC CXD2560M	
IC303	8-752-349-01	IC CXD2561AM	
IC306	8-759-503-91	IC TL082ACP (M54)	
IC306	8-759-945-58	IC RC4558P (M43)	
IC307	8-759-945-58	IC RC4558P	
		< JACK >	
J381	1-569-442-11	JACK, PIN 2P (LINE OUT) (M43)	
* J381	1-569-443-11	JACK, PIN 4P (LINE OUT) (M54)	
		< COIL >	
L301	1-408-403-00	INDUCTOR 3.3uH	
L321	1-408-403-00	INDUCTOR 3.3uH	
		< TRANSISTOR >	
Q202	8-729-140-96	TRANSISTOR 2SD774-34	
Q203	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q204	8-729-900-65	TRANSISTOR DTA144ES	
Q205	8-729-900-89	TRANSISTOR DTC144ES	
Q206	8-729-900-89	TRANSISTOR DTC144ES	
Q207	8-729-230-45	TRANSISTOR 2SC2458-YGR	
Q208	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q209	8-729-281-52	TRANSISTOR 2SC1815-Y (M54)	
Q341	8-729-900-65	TRANSISTOR DTA144ES	
Q342	8-729-900-65	TRANSISTOR DTA144ES	
Q343	8-729-900-65	TRANSISTOR DTA144ES	
Q344	8-729-900-89	TRANSISTOR DTC144ES	
Q371	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q372	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q373	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q374	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q375	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q376	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q392	8-729-900-80	TRANSISTOR DTC114ES (M43)	
		< RESISTOR >	
R204	1-249-425-11	CARBON 4.7K 5% 1/4W	
R205	1-249-425-11	CARBON 4.7K 5% 1/4W	
R206	1-249-417-11	CARBON 1K 5% 1/4W	
R207	1-249-417-11	CARBON 1K 5% 1/4W	
R208	1-249-423-11	CARBON 3.3K 5% 1/4W	
R209	1-249-413-11	CARBON 470 5% 1/4W	
R210	1-249-429-11	CARBON 10K 5% 1/4W	(M54)
R211	1-249-410-11	CARBON 270 5% 1/4W	(M54)
R214	1-249-417-11	CARBON 1K 5% 1/4W	
R301	1-249-417-11	CARBON 1K 5% 1/4W	
R302	1-249-417-11	CARBON 1K 5% 1/4W	
R303	1-249-421-11	CARBON 2.2K 5% 1/4W	
R304	1-249-417-11	CARBON 1K 5% 1/4W	
R306	1-249-413-11	CARBON 470 5% 1/4W	
R309	1-249-405-11	CARBON 100 5% 1/4W	
R311	1-249-423-11	CARBON 3.3K 5% 1/4W	
R312	1-249-429-11	CARBON 10K 5% 1/4W	
R313	1-249-423-11	CARBON 3.3K 5% 1/4W	
R314	1-249-429-11	CARBON 10K 5% 1/4W	
R315	1-249-417-11	CARBON 1K 5% 1/4W	
R316	1-249-417-11	CARBON 1K 5% 1/4W	
R317	1-249-419-11	CARBON 1.5K 5% 1/4W	
R318	1-249-441-11	CARBON 100K 5% 1/4W	
R319	1-247-903-00	CARBON 1M 5% 1/4W	
R320	1-249-417-11	CARBON 1K 5% 1/4W	
R321	1-249-417-11	CARBON 1K 5% 1/4W	
R322	1-249-417-11	CARBON 1K 5% 1/4W	
R323	1-249-417-11	CARBON 1K 5% 1/4W	
R324	1-249-417-11	CARBON 1K 5% 1/4W	
R325	1-249-417-11	CARBON 1K 5% 1/4W	
R326	1-249-417-11	CARBON 1K 5% 1/4W	
R327	1-247-903-00	CARBON 1M 5% 1/4W	
R328	1-247-895-00	CARBON 470K 5% 1/4W	
R330	1-249-417-11	CARBON 1K 5% 1/4W	(M43)
R343	1-249-441-11	CARBON 100K 5% 1/4W	
R344	1-249-441-11	CARBON 100K 5% 1/4W	
R345	1-249-425-11	CARBON 4.7K 5% 1/4W	
R346	1-249-425-11	CARBON 4.7K 5% 1/4W	
R347	1-249-441-11	CARBON 100K 5% 1/4W	
R351	1-249-436-11	CARBON 39K 5% 1/4W	

MAIN

MOTOR VOL

Ref. No.	Part No.	Description	Remark
R352	1-249-436-11	CARBON 39K 5% 1/4W	
R353	1-249-436-11	CARBON 39K 5% 1/4W	
R354	1-249-436-11	CARBON 39K 5% 1/4W	
R355	1-249-436-11	CARBON 39K 5% 1/4W	
R356	1-249-436-11	CARBON 39K 5% 1/4W	
R357	1-249-436-11	CARBON 39K 5% 1/4W	
R358	1-249-436-11	CARBON 39K 5% 1/4W	
R361	1-249-431-11	CARBON 15K 5% 1/4W	(M54)
R361	1-249-432-11	CARBON 18K 5% 1/4W	(M43)
R362	1-249-431-11	CARBON 15K 5% 1/4W	(M54)
R362	1-249-432-11	CARBON 18K 5% 1/4W	(M43)
R363	1-249-431-11	CARBON 15K 5% 1/4W	(M54)
R363	1-249-432-11	CARBON 18K 5% 1/4W	(M43)
R364	1-249-431-11	CARBON 15K 5% 1/4W	(M54)
R364	1-249-432-11	CARBON 18K 5% 1/4W	(M43)
R365	1-249-438-11	CARBON 56K 5% 1/4W	
R366	1-249-438-11	CARBON 56K 5% 1/4W	
R367	1-249-438-11	CARBON 56K 5% 1/4W	
R368	1-249-438-11	CARBON 56K 5% 1/4W	
R369	1-249-419-11	CARBON 1.5K 5% 1/4W	
R370	1-249-419-11	CARBON 1.5K 5% 1/4W	
R371	1-249-419-11	CARBON 1.5K 5% 1/4W	
R372	1-249-419-11	CARBON 1.5K 5% 1/4W	
R373	1-247-887-00	CARBON 220K 5% 1/4W	
R374	1-247-887-00	CARBON 220K 5% 1/4W	
R375	1-249-409-11	CARBON 220 5% 1/4W	
R376	1-249-409-11	CARBON 220 5% 1/4W	
R377	1-249-409-11	CARBON 220 5% 1/4W	
R378	1-249-409-11	CARBON 220 5% 1/4W	
R379	1-249-425-11	CARBON 4.7K 5% 1/4W	
R380	1-249-425-11	CARBON 4.7K 5% 1/4W	
R381	1-249-425-11	CARBON 4.7K 5% 1/4W	
R382	1-249-425-11	CARBON 4.7K 5% 1/4W	
R383	1-249-413-11	CARBON 470 5% 1/4W	
R384	1-249-413-11	CARBON 470 5% 1/4W	
R385	1-249-393-11	CARBON 10 5% 1/4W	
R386	1-249-393-11	CARBON 10 5% 1/4W	
R388	1-249-393-11	CARBON 10 5% 1/4W	(M43)
R389	1-249-413-11	CARBON 470 5% 1/4W	(M54)
R390	1-249-413-11	CARBON 470 5% 1/4W	(M54)
R395	1-249-429-11	CARBON 10K 5% 1/4W	(M43)
R396	1-247-848-11	CARBON 5.1K 5% 1/4W	
R397	1-247-848-11	CARBON 5.1K 5% 1/4W	
R398	1-247-848-11	CARBON 5.1K 5% 1/4W	
R399	1-247-848-11	CARBON 5.1K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X327	1-579-314-11	VIBRATOR, CRYSTAL (22.5792MHz)	

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Ref. No.	Part No.	Description	Remark
*	A-4649-107-A	MOTOR VOL BOARD, COMPLETE (M54) ******************************	
*	4-922-980-01	HOLDER (LED) (M54)	
		< CAPACITOR >	
C451	1-124-443-00	ELECT 100uF 20% 10V	(M54)
C452	1-124-443-00	ELECT 100uF 20% 10V	(M54)
C471	1-124-443-00	ELECT 100uF 20% 10V	(M54)
C472	1-124-768-11	ELECT 4.7uF 20% 50V	(M54)
C473	1-164-159-11	CERAMIC 0.1uF 50V	(M54)
		< CONNECTOR >	
* CN451	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P	(M54)
* CN453	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	(M54)
CN472	1-506-468-11	CONNECTOR 3P, MALE	(M54)
		< DIODE >	
D471	8-719-970-49	DIODE BR4361F LINE OUT PHONE LEVEL)	(M54)
		< IC >	
IC451	8-759-981-89	IC RC4556S	(M54)
IC471	8-759-962-08	IC BA6208	(M54)
		< RESISTOR >	
R451	1-249-435-11	CARBON 33K 5% 1/4W	(M54)
R452	1-249-435-11	CARBON 33K 5% 1/4W	(M54)
R453	1-249-432-11	CARBON 18K 5% 1/4W	(M54)
R454	1-249-432-11	CARBON 18K 5% 1/4W	(M54)
R455	1-249-422-11	CARBON 2.7K 5% 1/4W	(M54)
R456	1-249-422-11	CARBON 2.7K 5% 1/4W	(M54)
R457	1-249-429-11	CARBON 10K 5% 1/4W	(M54)
R458	1-249-429-11	CARBON 10K 5% 1/4W	(M54)
R461	1-249-399-11	CARBON 33 5% 1/4W	(M54)
R462	1-249-399-11	CARBON 33 5% 1/4W	(M54)
R471	1-249-411-11	CARBON 330 5% 1/4W	(M54)
R472	1-249-417-11	CARBON 1K 5% 1/4W	(M54)
R473	1-249-417-11	CARBON 1K 5% 1/4W	(M54)
		< VARIABLE RESISTOR >	
RV451	1-241-810-11	RES, VAR, CARBON 10K/10K (LINE OUT PHONE LEVEL)	(M54)

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)	
**			
*	A-4649-104-A	DISP BOARD, COMPLETE (M54)	
*	A-4649-110-A	DISP BOARD, COMPLETE (M43)	
		**************************	
		< CAPACITOR >	
C402	1-164-159-11	CERAMIC 0.1uF	50V
C403	1-126-154-11	ELECT 47uF 20%	6.3V
C404	1-161-494-00	CERAMIC 0.022uF	25V
C405	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
CN401	1-535-987-11	JAMPER, FILM (WITH TERMINAL)	
		< DIODE >	
D401	8-719-987-63	DIODE 1N4148M	
D402	8-719-987-63	DIODE 1N4148M	
D403	8-719-987-63	DIODE 1N4148M	
D404	8-719-987-63	DIODE 1N4148M	
D405	8-719-987-63	DIODE 1N4148M	
D406	8-719-987-63	DIODE 1N4148M	
D407	8-719-987-63	DIODE 1N4148M	
D408	8-719-987-63	DIODE 1N4148M	
D409	8-719-987-63	DIODE 1N4148M	
D410	8-719-987-63	DIODE 1N4148M	
D411	8-719-987-63	DIODE 1N4148M	
D412	8-719-121-24	DIODE RD9.1ESL	
		< FLUORESCENT INDICATOR >	
FLD401	1-519-681-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC401	8-759-061-40	IC uPD75216ACW-C73 (M54)	
IC401	8-759-070-44	IC uPD75216ACW-C93 (M43)	
IC402	8-741-100-48	IC SBX1610-59 (M54)	
		< RESISTOR >	
R401	1-249-435-11	CARBON 33K 5% 1/4W	
R402	1-249-435-11	CARBON 33K 5% 1/4W	
R403	1-249-435-11	CARBON 33K 5% 1/4W	
R404	1-249-435-11	CARBON 33K 5% 1/4W	
R405	1-249-435-11	CARBON 33K 5% 1/4W	
R406	1-249-425-11	CARBON 4.7K 5% 1/4W	
R407	1-249-425-11	CARBON 4.7K 5% 1/4W	
R408	1-249-439-11	CARBON 68K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S401	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S402	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S403	1-554-303-21	SWITCH, TACTILE (	
S404	1-554-303-21	SWITCH, TACTILE (	
S405	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S406	1-554-303-21	SWITCH, TACTILE (FADER)	
S407	1-554-303-21	SWITCH, TACTILE (	
S408	1-554-303-21	SWITCH, TACTILE (	
S409	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S410	1-554-303-21	SWITCH, TACTILE (TIME)	
S411	1-554-303-21	SWITCH, TACTILE (	
S412	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE)	
S413	1-554-303-21	SWITCH, TACTILE (	
S414	1-554-303-21	SWITCH, TACTILE (	
S415	1-554-303-21	SWITCH, TACTILE (EDIT)	
S416	1-554-303-21	SWITCH, TACTILE (TIME SET)	
S417	1-554-303-21	SWITCH, TACTILE (PEAK SERCH)	
S418	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)	
S419	1-554-303-21	SWITCH, TACTILE (1)	
S420	1-554-303-21	SWITCH, TACTILE (6)	
S421	1-554-303-21	SWITCH, TACTILE (11)	
S423	1-554-303-21	SWITCH, TACTILE (2)	
S424	1-554-303-21	SWITCH, TACTILE (7)	
S425	1-554-303-21	SWITCH, TACTILE (12)	
S427	1-554-303-21	SWITCH, TACTILE (3)	
S428	1-554-303-21	SWITCH, TACTILE (8)	
S431	1-554-303-21	SWITCH, TACTILE (4)	
S432	1-554-303-21	SWITCH, TACTILE (9)	
S435	1-554-303-21	SWITCH, TACTILE (5)	
S436	1-554-303-21	SWITCH, TACTILE (10)	
S439	1-554-303-21	SWITCH, TACTILE (>12)	
S440	1-554-303-21	SWITCH, TACTILE (CHECK)	
S441	1-554-303-21	SWITCH, TACTILE (CLEAR)	
S442	1-554-303-21	SWITCH, TACTILE (A.SPACE/A.CUE)	
		< VIBRATOR >	
X401	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	
**			
	1-642-886-21	HP BOARD (M54)	
		**************	
		< CAPACITOR >	
C481	1-162-294-31	CERAMIC 0.001uF 10%	50V(M54)
C482	1-162-294-31	CERAMIC 0.001uF 10%	50V(M54)
C483	1-164-159-11	CERAMIC 0.1uF	50V(M54)

HP LOADING MAIN

Ref. No.	Part No.	Description			Remark
		< JACK >			
J481	1-568-519-41	JACK, LARGE TYPE (PHONES)(M54)			
		< RESISTOR >			
R481	1-249-402-11	CARBON	56	5%	1/4W(M54)
R482	1-249-402-11	CARBON	56	5%	1/4W(M54)

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Ref. No.	Part No.	Description			Remark
*	1-632-202-11	LOADING BOARD *************			
		< CONNECTOR >			
* CN301	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
		< SWITCH >			
S271	1-572-086-11	SWITCH, LEAF (OUT SW)			
S272	1-572-086-11	SWITCH, LEAF (IN SW)			

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Ref. No.	Part No.	Description			Remark
*	A-4649-105-A	MAIN BOARD, COMPLETE (M54)			
*	A-4649-111-A	MAIN BOARD, COMPLETE (M43) **************************			
	4-902-345-01	HEAT SINK (EXCEPT M54:UK)			
*	4-941-237-01	HEAT SINK (M54:UK)			
		< CAPACITOR >			
C205	1-126-163-11	ELECT	4.7uF	20%	50V
C206	1-126-059-11	ELECT	10uF	20%	50V
C207	1-126-059-11	ELECT	10uF	20%	50V
C208	1-124-997-11	ELECT	470uF	20%	10V
C209	1-124-997-11	ELECT	470uF	20%	10V
C210	1-126-024-11	ELECT	220uF	20%	16V
C211	1-124-997-11	ELECT	470uF	20%	10V
C212	1-164-159-11	CERAMIC	0.1uF		50V
C213	1-126-012-11	ELECT	470uF	20%	16V
C214	1-126-012-11	ELECT	470uF	20%	16V
C301	1-126-022-11	ELECT	47uF	20%	16V
C302	1-126-301-11	ELECT	1uF	20%	50V
C305	1-126-022-11	ELECT	47uF	20%	16V
C306	1-164-159-11	CERAMIC	0.1uF		50V
C307	1-164-159-11	CERAMIC	0.1uF		50V
C308	1-164-159-11	CERAMIC	0.1uF		50V
C311	1-130-491-00	MYLAR	0.047uF	5%	50V
C312	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C313	1-161-494-00	CERAMIC	0.022uF		25V
C314	1-162-306-11	CERAMIC	0.01uF	20%	16V
C315	1-126-300-11	ELECT	0.47uF	20%	50V
C317	1-164-159-11	CERAMIC	0.1uF		50V
C318	1-164-159-11	CERAMIC	0.1uF		50V(M43)
C319	1-162-282-31	CERAMIC	100PF	10%	50V
C320	1-130-483-00	MYLAR	0.01uF	5%	50V
C321	1-162-208-31	CERAMIC	24PF	5%	50V
C322	1-124-994-11	ELECT	100uF	20%	10V
C324	1-164-159-11	CERAMIC	0.1uF		50V
C325	1-162-205-31	CERAMIC	18PF	5%	50V
C326	1-162-205-31	CERAMIC	18PF	5%	50V
C327	1-164-159-11	CERAMIC	0.1uF		50V
C328	1-126-024-11	ELECT	220uF	20%	16V
C329	1-126-024-11	ELECT	220uF	20%	16V
C330	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-164-159-11	CERAMIC	0.1uF		50V
C332	1-164-159-11	CERAMIC	0.1uF		50V
C333	1-164-159-11	CERAMIC	0.1uF		50V
C335	1-164-159-11	CERAMIC	0.1uF		50V
C351	1-126-022-11	ELECT	47uF	20%	16V
C352	1-164-159-11	CERAMIC	0.1uF		50V
C353	1-126-022-11	ELECT	47uF	20%	16V
C354	1-164-159-11	CERAMIC	0.1uF		50V
C355	1-126-022-11	ELECT	47uF	20%	16V
C356	1-164-159-11	CERAMIC	0.1uF		50V
C357	1-124-994-11	ELECT	100uF	20%	10V (M43)
C357	1-124-997-11	ELECT	470uF	20%	10V (M54)
C358	1-124-994-11	ELECT	100uF	20%	10V (M43)
C358	1-124-997-11	ELECT	470uF	20%	10V (M54)
C361	1-162-280-31	CERAMIC	82PF	10%	50V
C362	1-162-280-31	CERAMIC	82PF	10%	50V
C363	1-162-213-31	CERAMIC	39PF	5%	50V
C364	1-162-213-31	CERAMIC	39PF	5%	50V
C365	1-162-213-31	CERAMIC	39PF	5%	50V
C366	1-162-213-31	CERAMIC	39PF	5%	50V
C367	1-161-494-00	CERAMIC	0.022uF		25V
C368	1-161-494-00	CERAMIC	0.022uF		25V
C371	1-106-359-00	MYLAR	4700PF	5%	200V
C372	1-106-359-00	MYLAR	4700PF	5%	200V
C373	1-130-472-00	MYLAR	0.0012uF	5%	50V
C374	1-130-472-00	MYLAR	0.0012uF	5%	50V
C377	1-126-022-11	ELECT	47uF	20%	16V
C378	1-126-022-11	ELECT	47uF	20%	16V
C379	1-106-347-00	MYLAR	1500PF	5%	200V
C380	1-106-347-00	MYLAR	1500PF	5%	200V
C392	1-164-159-11	CERAMIC	0.1uF		50V(M43)
C393	1-164-159-11	CERAMIC	0.1uF		50V(M43)
C394	1-124-994-11	ELECT	100uF	20%	10V(M43)

P. SW POWER

Ref. No.	Part No.	Description	Remark
*	1-642-887-21	P. SW BOARD **********	
		< SWITCH >	
S491	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	

****

Ref. No.	Part No.	Description	Remark
*	1-642-883-21	POWER BOARD ***********	
		< CAPACITOR >	
C201	1-124-572-11	ELECT 100uF 20%	63V
C202	1-126-059-11	ELECT 10uF 20%	50V
C203	1-124-556-11	ELECT 2200uF 20%	16V
C204	1-126-937-11	ELECT 4700uF 20%	16V
C221	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
* CN201	1-564-511-11	PLUG, CONNECTOR 8P	
* CN203	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
		< DIODE >	
D201	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D201	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D202	8-719-110-03	DIODE RD7.5ES-B2	
D203	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D203	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D204	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D204	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D205	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D205	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
D206	8-719-200-02	DIODE 10E2 (M43:E, Saudi Arabia)	
D206	8-719-200-82	DIODE 11ES2 (EXCEPT M54/M43:E, Saudi Arabia)	
		< IC >	
IC201	8-759-633-42	IC M5293L	
		< TRANSISTOR >	
Q201	8-729-119-76	TRANSISTOR 2SA1175-HFE	

Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R201	1-249-435-11	CARBON 33K 5%	1/4W
R202	1-249-438-11	CARBON 56K 5%	1/4W
R203	1-249-429-11	CARBON 10K 5%	1/4W
		< SWITCH >	
⚠S201	1-571-722-11	SWITCH, VOLTAGE SELECTION	(E, Saudi Arabia)

****

MISCELLANEOUS

****

Ref. No.	Part No.	Description	Remark
⚠23	1-558-946-21	CORD, POWER (M54:UK)	
⚠23	1-574-358-31	CORD, POWER (WITH CONNECTOR) (Australian)	
⚠23	1-575-651-21	CORD, POWER (AEP, Italian, Saudi Arabia)	
⚠23	1-575-653-21	CORD, POWER (E)	
⚠23	1-590-379-11	CORD, POWER (M43:UK)	
28	1-575-160-11	WIRE, FLAT TYPE (22 CORE)	
⚠32	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
⚠32	1-569-008-11	ADAPTER, CONVERSION 2P (Saudi Arabia)	
* 110	1-452-538-11	MAGNET	
156	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
⚠157	8-848-144-11	DEVICE, OPTICAL KSS-240A	
D471	8-719-970-49	DIODE BR4361F (M54)	
M101	X-4917-523-3	BASE (OUTSERT) ASSY	
M102	X-4917-504-1	MOTOR ASSY	
M191	A-4604-363-A	MOTOR (L) ASSY	
⚠T901	1-449-922-11	TRANSFORMER, POWER	(EXCEPT E, Saudi Arabia)
⚠T901	1-449-923-11	TRANSFORMER, POWER	(E, Saudi Arabia)

****

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS ******************************	
	1-465-867-11	REMOTE COMMANDER (RM-D597) (M54)	
	1-558-271-11	CORD, CONNECTION (MADE IN FRANCE)	
	1-559-533-11	CORD, CONNECTION (MADE IN JAPAN)	
	2-181-754-01	COVER, BATTERY (M54)	
	3-754-665-11	MANUAL, INSTRUCTION (English/French Spanish/Portuguese) (M54:AEP, E, UK)	
	3-754-665-41	MANUAL, INSTRUCTION (Dutch/German Italian/Swedish) (M54:AEP)	
*	4-922-998-01	CUSHION (MADE IN JAPAN)	
*	4-927-355-03	CUSHION (MADE IN FRANCE)	
*	4-948-882-31	INDIVIDUAL CARTON (MADE IN FRANCE M43:AEP, Italian, UK)	
*	4-948-882-41	INDIVIDUAL CARTON (MADE IN FRANCE M54:AEP, UK)	
*	4-949-971-21	INDIVIDUAL CARTON (MADE IN JAPAN M43:AEP, Australian)	
*	4-949-971-41	INDIVIDUAL CARTON (MADE IN JAPAN M54:E, AEP)	

****

HARDWARE LIST

****

#1	17-682-548-09	SCREW +BVTT 3X8 (S)
#2	27-682-547-09	SCREW +B 3X6
#3	37-682-547-04	SCREW +BVTT 3X6 (S)
#4	47-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#5	57-621-255-15	SCREW +P 2X3
#6	67-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S
#7	77-621-775-10	SCREW +B 2.6X4

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Audio Group

Published by Customer Relations and Service Group

9-957-062-11

SS-D66AV

SERVICE MANUAL

E Model
Tourist Model

SPECIFICATIONS

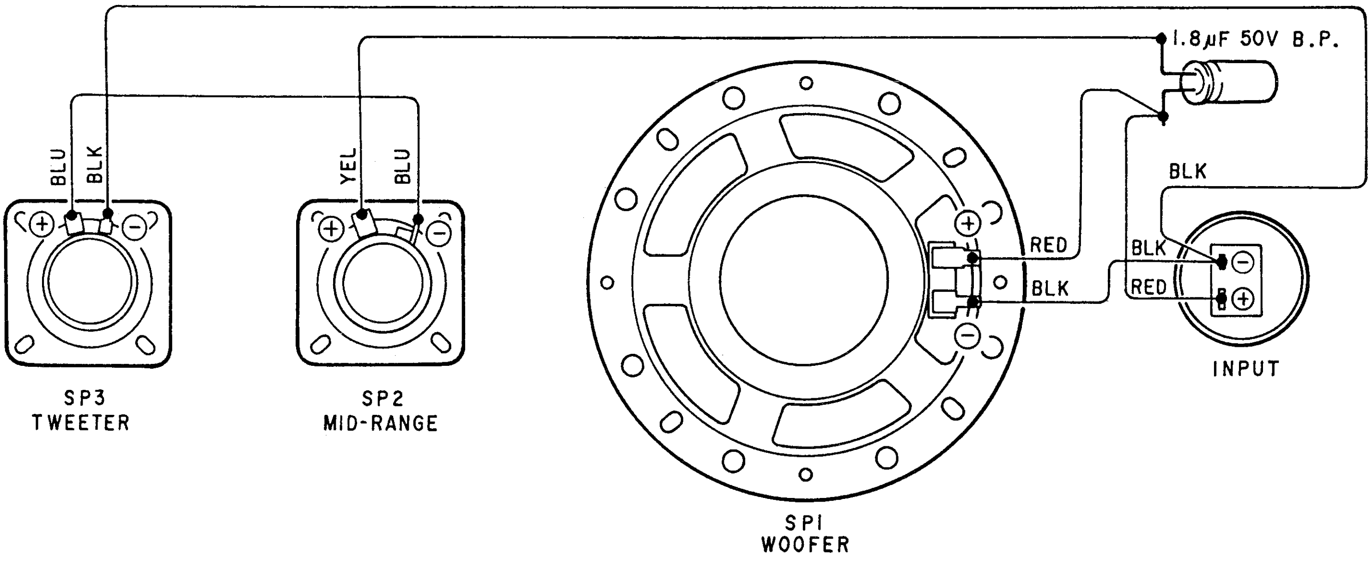
Speaker system	3-way
Speaker units	Woofer : 22 cm, cone type Midrange : 6.5 cm, cone type Tweeter : 6.5 cm, cone type
Enclosure type	Bass reflex
Rated impedance	6 ohms
Maximum input power	100 W
Sensitivity	91 dB (1 W, 1 m),
Frequency range	40 Hz to 20,000 Hz
Dimensions	270 X 455 X 285 mm (w/h/d)
Weight	6.3 kg
Magnetically shielded type	

Design and specifications subject to change without notice.

SONY
3 WAY SPEAKER SYSTEM
SS-D66AV
AV

This set is the speaker system in LBT-A60/A60CD/A60CDM.

1. WIRING DIAGRAM


1.8μF 50V B.P.
BLU
BLK
YEL
BLU
⊕
⊖
⊕
⊖
⊕
⊖
RED
BLK
BLK
BLK
RED
⊖
⊕
INPUT
SP3
TWEETER
SP2
MID-RANGE
SP1
WOOFER

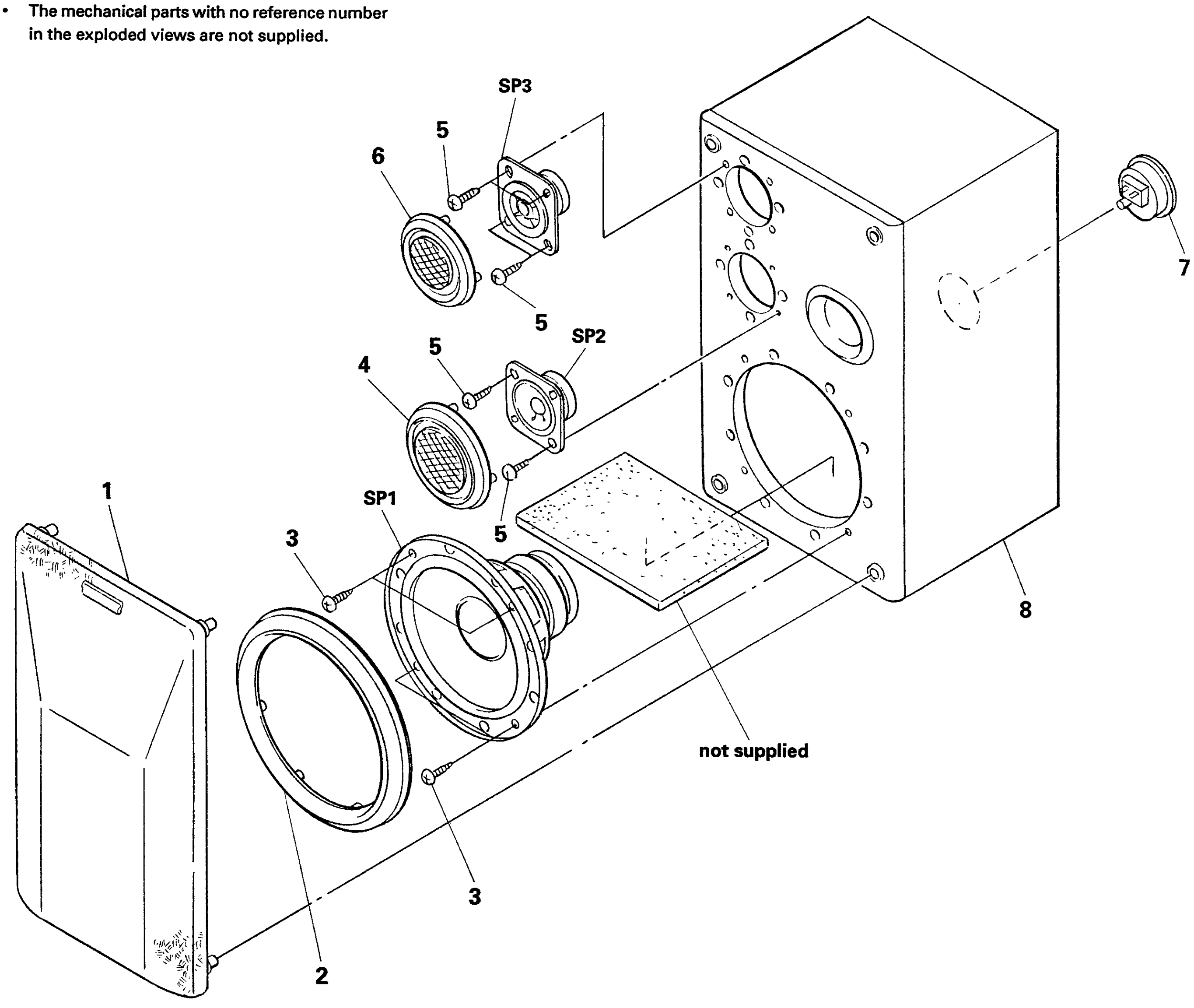
SPEAKER SYSTEM

SONY®

2. EXPLODED VIEW AND PARTS LIST

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.



Ref. No.	Part No.	Description	Remarks
1	X-4942-366-1	FRAME ASSY, GRILLE	
2	X-4942-754-1	FRAME (W) ASSY, ORNAMENT	
3	4-923-040-01	SCREW (4X16), TAPPING	
4	X-4942-596-1	FRAME (M) ASSY, ORNAMENTAL	
5	4-874-614-21	SCREW (4) (3.5X14), TAPPING	
6	X-4942-753-1	FRAME (T) ASSY, ORNAMENT	
7	1-537-145-11	TERMINAL BOARD (SPEAKER)	
* 8	X-4942-373-1	CABINET (L) ASSY, SPEAKER	
* 8	X-4942-374-1	CABINET (R) ASSY, SPEAKER	

Ref. No.	Part No.	Description	Remarks
SP1	1-544-751-11	SPEAKER (20CM)	
SP2	1-544-730-11	SPEAKER (6CM)	
SP3	1-544-731-11	SPEAKER (6CM)	
		ACCESSORIES & PACKING MATERIALS ******************************	
*	4-953-042-01	CUSHION (UPPER)	
*	4-953-043-01	CUSHION (LOWER)	
*	4-953-048-01	INDIVIDUAL CARTON	

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